NEW-YORK FARMER,

AND

Horticultural Repository.

VOL. 2.] NEW-YORK OCTOBER, 1829. [NO. 10.

ART. 134.—*Notice of a Publication made at Marseilles in France, on the project of a Public Establishment for the Suppression of Beggary.* By Samuel L. Mitchill. [Communicated for the N. Y. Farmer.]

This performance comes from two spirited gentlemen, M. Segaud, a physician, and M. L. Mery, president of the statistical society there. Mendicity had become so great an evil in that city, that in 1827, the time was deemed to have arrived, for making an attempt to put an end to it.

Before stating their plan, however, they present a sketch of the subject in ancient nations, and bring it up to its condition among modern people, and particularly the inhabitants of that place. They differ entirely from the celebrated Rousseau, who in an elaborate dissertation, endeavoured to prove that the savage was preferable to the civilized state. Yet, they confess there are many evils in the modern organization of society; and that the desire of living without labor, or of importuning others for the means of subsistence, is one of them. They question whether poverty committed such ravages among the ancients, as are conspicuous among the moderns.

They ascribe this to the prevalence of *slavery* then, on one part, and of *patronage*, on the other. By the former a vast number of persons were exempted from the labor and care of providing for the wants of life; while by the latter, solemn and formal distribution of good was made to their dependants and clients.

They charge much of the mendicity which has prevailed to the Christian religion.* While they acknowledge that it has changed the face of the world, and rendered incalculable benefits to mankind; they observe that it preached so forcibly a separation from the things of this globe; and pourtrayed with such persuasive accents the torrent of delight which would inundate the souls of the just in heaven; that it inspired many with a profound contempt for all that the earth could afford. Considering this life merely as a short pilgrimage, persons were seen on all sides abandoning their affairs, renouncing their hopes of fortune, and betaking themselves to solitudes and desarts, to enjoy a contemplative existence. A singular veneration surrounded them. The profession of a mendicant became honourable, and the hand that disdained useful labour, received alms from the faithful, without a sentiment of humiliation, but rather with a pious pride.

Thus the numbers of the poor were increased, and also the horrors of famine, by the desolations of feudality and barbarism.

The crusades had a powerful effect, especially in France, to augment the number of those wretched beings. Many of them had been so infatuated with expectations of great acquisitions in the Holy Land, that they sold off their property; and finally returned home with their wives and children so destitute, that charitable establishments were formed for their relief.

The French revolution by the repeal of the feudal laws, the suppression of monasteries, and the more equal distribution of property and employment, though it did a great deal, could not however remove all the causes of poverty.

One of the most considerable they mention is the introduction of *labour-saving* machines; whereby the public misery has been memorably increased, by leaving a vast population without the means of living by labour, though willing to work.

The introduction of the Vaccine practice, is another source of poverty and want. They allow to the cow-pock, the power to secure the human constitution against the small-pox; but in doing so, lives are preserved, while there is no additional provision for food, clothes, or employment. During the 27 years since the introduction of this new preventive, the epedemic small-pox has been rare and inconsiderable. This has contributed materially to swell the numbers, and increase paupers. In Marseilles, for example, out of about 50,000 vaccinated children, 8,000 at least would have probably been carried off by various epedemics. These are saved from death; but the humane now are puzzled to know what to do with them.

An overplus of people consequent upon a state of peace is mentioned as a prolific source of mendicity. There being more people than business, many must suffer or perhaps starve. There are now no wars to thin their ranks.

Another cause of mendicity is the the frequency

* Rather the fanaticism of those who professed Christianity.—*Ed.*

of marriages, between persons without property, or the means of procuring the wherewith to rear families. Hence proceed the crowds of beggarly children that infest the streets. Brought up to begging they shun labor, and not unfrequently become dangerous members of society.

Ignorance, they say, generally begets poverty; enlighten men, and they will more generally be submissive to the laws. By denying them education, you plunge them into indigence.

Gambling is enumerated among the ills preparatory to indigence. Its passions and terrors are feelingly displayed. They hope that such sources of misery will soon be closed, and that religion, philosophy, and a wise government will succeed. (p. 19.)

Much evil is ascribed to lotteries, as offering a ruinous lure to the cupidity of the people, upon whom they levy a daily tax. This is paid chiefly by the most unfortunate class, or by those who are least able to make the contribution. The insidious bills posted up at these caverns of woe, encourage ignorant credulity to hope for the acquisition of an easy fortune. From such wretched sources, and by such wretched means, do the public or the proprietor, derive the profit or per centage. They call such an attempt upon private wants a violation of public morality, even a palpable theft; and express an earnest desire for the total discontinuance of these shops of deceit.

The vile passions of libertinage and debauch are next accused, with a charge, that after having loaded society with a great number of innocent victims, these travel to the tomb, beset with sickness, premature diseases, and appalling misery.

Luxury, and the extravagance of fashion, are complained of as contributing to poverty, especially in great cities; though the modes are imitated in every town and section of the country. They say they could offer to their readers, various displays of houses heretofore opulent, that have perished in the wreck of costly exhibitions. These occurrences are common enough.

After having presented these various causes of poverty and mendicity, the authors proceed to assign their ways of prevention. (p. 20 to 30.)

As one of the most efficacious methods to destroy the causes of mendicity, they recommend the erection of a work house, in which shall be apartments adapted to the capacity and age of the mendicants who are valid and well. They observe that males may be weavers, tailors, shoemakers, joiners, turners, marble sawers, &c.; and that females may be employed as milliners, cordmakers, spinsters of cotton, hemp, wool and flax, and in making fishing nets, baskets, and preparing oakum. Old men may be employed in these last mentioned arts. This edifice to be the receptacle of persons out of employment and destitute of the means of subsistence. They may be received as residents, or be employed voluntarily by the day, as labourers, according to circumstances.

2. Begging in the streets and public places, is to be strictly forbidden, under the penalty of considering every such individual as a common vagabond, and to be confined in a house of restraint or correction.

3. The citizens to be prohibited from bestowing alms publicly, under the penalty of a fine, to be paid into the treasury of the establishment.

4. All the paupers and beggars who are not qualified to be admitted into some charitable institution, shall be admitted into this house. Though they recommend that the sick poor, be accomodated in the hospitals and charities.

5. Should the house actually become the depot of mendicity, the persons admitted ought to be fed and clothed comfortably.

6. On the supposition that the paupers should reside in the house, they ought to receive a part of the proceeds of their labour, to be disposed of for their benefit whenever they should quit; but this should never be permitted until such departing individual should give assurance of being capable of getting a livelihood, or procure some respectable citizen to vouch for him.

7. None but mendicants born in Marseilles, or domesticated there for a certain term, shall be received into this asylum. New comers into the city shall be sent to their respective departments. The like shall be done to foreign paupers. And thus such as belong to the latter class would be discouraged from emigrating to a country upon which they have no claims, and where they will become a public burthen.

The next question the reporters discuss, is raising the money for constructing and endowing the house. They propose a subscription and voluntary contribution by the one hundred and twenty thousand resident inhabitants.

They tell curious stories of *simulated* diseases, among those miserable creatures; such as *artificial ulcers*, caused by the application of acid substances; *feigned epilepsy*; *counterfited hæmoptysis*, by chewing cinnabar, or the red sulphuret of quicksilver; and *imitated jaundice*, by coloring the skin with ochre.

They express a hope that the contemplated subscriptions will be assisted by the general council of the department, and the municipal authority, in granting ground for the locations.

It is remarkable that the pitiful supplicants have frequently imparted the itch to their benefactor; and when their petitions have not been granted, they

blow through a paper tube, a swarm of lice upon the person who has offended them. They, or at least many of them, are proved to be great epicures and gormandizers. They have suppers which are real orgies, where the most obscene discourse and horrid swearing are uttered; where the finest wines and most exquisite viands are served up; and at the close, cards are played for money, where a coin of copper is seldom seen.

The writer of this article concludes by stating the difference told in the report, between mendicity and pauperism. The former is the business of begging, the latter, the condition of poverty or indigence. Several instances are told of rich mendicants. An instance is given of a man, a few years ago, who left at the time of his death, ten thousand francs, which were found wrapped up in rags; and another more recently, of a woman who spent her days in begging at the corner of a particular street, and who was permitted by considerations of charity, to pass the nights in a neighbouring house, that had amassed more than six thousand francs, which she gave by will to a lady in that quarter. A blind beggar standing on his knees in the street, said to his sightless comrade, also kneeling beside him, in a low voice, but loud enough to be overheard by one of the reporters, "I have already nineteen louis and a half; when I have completed the twenty, which I shall probably do in the course of two or three days, I shall send the whole into the country." They are both steady beggars at Marseilles.

One of the dismal spectacles in the streets of Marseilles, is that of small bare-footed children leading old blind fathers about for the purpose of begging. Some of these sightless veterans are conducted by boys eight or ten years old, who are hired for three francs a month, with food, lodging, and clothes. These latter mostly turn out to be dangerous members of society.

Remarks by the Editor.—If the introduction of labor-saving machinery is detrimental to the happiness of mankind, then the inventive genius of man is incompatible with his interest, and his intellectual powers require a limit in their cultivation. But we do not believe in the premises; and the conclusions, though legitimate, reflect, in our opinion, on the wisdom of the supreme. The evils in society arise from the abuse of means and not from their use. Human society, in proportion as it is well organized, resembles a machine which operates towards perfection according to the finish and adaption of each of the parts. If an appendage or essential part is out of order, others may thereby be deranged; and to an unexperienced and superficial eye, the defect in the production of the machine, may be attributed to the wrong causes, and consequently the remedies applied may derange in a tenfold degree.

The introduction of labor-saving machinery unquestionably, like any other sudden changes, is often productive of temporary local evils; but yet the evil is lost amidst the general good. Individual abundance and consumption are in proportion to the facilities of acquisition of the comforts and luxuries of life. Introduce new articles, and reduce the price of old ones, and you increase the consumption. If machinery were introduced only in one or a few branches of industry, there would then be evils, but since the whole field of man's exertion is embraced, all the parts of the machinery, like those of the human system, move in perfect unity and harmony. Hence the price of the articles we buy, as well as those we sell, is varied in the same proportion. We cannot believe that the legitimate use of the natural faculties of man is any more injurious to the human race in a physical point of view, than the increase of virtue and true religion is detrimental to moral happiness.

If it is true that vaccination is a cause of pauperism, then every means of ameliorating the condition of man, that prolongs life, is on the whole detrimental to the happiness of mankind; and on this prineiple the wars of Napoleon, which cost five millions of human lives, and spread misery and desolation among as many hundred millions, were in reality grand and extensive operations of benevolence. Is it not as clear as the light of day, that there was more suffering--incalculably more—during the wars of Napoleon, than there would have been had peace prevailed? If so, then on the same reasoning, there would have been more misery, and we think more suffering from poverty, had those eight thousand additional inhabitants of Marseilles, after enduring all the pain of the small pox, been consigned to their graves. If vaccination increases pauperism, the successful remedies applied to the diseased parts of the human body, are on the whole detrimental to the system. But common sense, and universal experience refute this doctrine. It is wrong in the premiss to reason thus. We need not be apprehensive that the world is in danger of becoming too densely populated, until, at least, after many thousand years are passed. Admitting that each square mile of land should give sustenance to one hundred persons, as is the case in China and Hindostan, then the earth will support a population *fourteen* times greater than at present:—making 9,800,000,000; deducting the present population, 700,000,000, leaves 9,100,000,000 for the births to exceed the deaths. When we consider the immensity of this number, and what improvements will be made in ameliorating the condition of man, and what will be the increased productiveness of the earth as mankind advance in skill and science, who has any

apprehension that his latest posterity will see every inch of the earth's surface occupied, and thus be unable to find either bread or a resting place? It is time that the doctrine, that wars are *necessary* to free the earth of its super abundant population, was discarded. It is war that deranges those natural laws which would insure plenty and happiness to the whole world, were they suffered to operate and take their full effect. As for population, if it is possible for it to be *too great*, it will correct itself.

This subject is a deep and interesting one, on which did our limits permit, we should be pleased to give our views more fully.

ART. 135.—*On Practical Co-operative Societies as a means of ameliorating the Condition of the Laborious Classes, with some account of the Brighton Co-operative Society.* By PHILANTHROPIST. [From the Gardener's Magazine.

Sir,—In the spirit of doing good, which pervades your pages, allow me to introduce to your notice, a subject you have never yet handled, and are perhaps entirely ignorant of, but which is also calculated, like the measures you recommend, to promote independence, virtue, and happiness. The ground it stands upon is entirely practical, and all its merits consist in its having been reduced to practice in Brighton; I mean, "Practical Co-operation." A society of workmen was formed in Brighton about July 1827, for the purpose of acquiring a knowledge of the principles of Co-operation, and of reducing them to practice. The principles are simply two; first, to form a common capital, by a weekly subscription, like a benefit society; secondly, to employ that capital, in trade, and in giving work to their own members.

Consistently with these principles, the Society laid out their subscriptions in articles of daily consumption, which were retailed to the members and the public, giving the profits to the Society. The business was first done by a member gratis. When it increased, so as to take up a person's whole time, one member was appointed agent, with a weekly salary of one pound, which, since the Society has been found to prosper, has been increased to twenty-five shillings. When the common capital became larger than the shop required, they hired about twenty-eight acres of land, about ten miles from Brighton, which is chiefly cultivated as a garden. Here they now employ five of their members and one lad, the son of a member, as an apprentice. As the capital increases, they will employ more, and they will employ them in other trades, as well as that of gardening, accordingly as they appear to be most profitable; the ultimate object being to employ all the members upon their own capital, so as to receive themselves the whole produce of their labour. Here then if they choose to increase that labour, they will increase the capital in the same proportion.

They are now arrived at that state, when they would be glad to be joined by a first-rate gardener, who would act upon their principles, as the Brighton market would afford a return for the best skill and talents in that line. If such a man would join them with a capital of twenty pounds, they would admit him a member, find him constant employment, and take his 20*l.* as a loan, allowing him interest upon it. An arrangement equally advantageous to both parties. An entrance fee of five ponnds would be required, as being the present value of one share of the common capital.

As they have proceeded, they have found the great advantage and even necessity of knowledge; they have therefore a small library, and an evening school, both of which are superintended by a member, who is paid a small salary for his trouble.

A society upon the same principles is established in London, at No. 2. Jerusalem Passage, St. John's Square, Clerkenwell, where every information may be obtained, and various publications, among which may be particularly mentioned *The Associate* and *The Co-operator*: the former published in London, the latter in Brighton, monthly, at one penny each. They are also to be had of Cowie and Strange, Paternoster Row. The Brighton Society, 37 West street, was the first established: since which there have been upwards of seventy formed in different places.

I would not have troubled you upon this subject, had I not been firmly convinced, by seeing this Society in operation, that the principle is calculated, and even destined, to raise the working classes, out of a state of degradation and want, into one of comfort and independence.

Yours, &c.

May 27, 1829. PHILANTHROPIST.

Our readers, we are sure, will join with us in thanking our benevolent correspondent for his very interesting communication. We have procured *The Associate* and *The Co-operator*, and have perused them; and, viewing the associations as common partnerships in trade, we do not see why they should not succeed as well as partnerships generally do. If they do succeed, the labourer is, at any rate, laying out his money and his labour to a greater advantage than he could do by any existing mode of investment. At all events, let it be fairly and extensively tried and persevered in, till a result is obtained, satisfactory both in fact and on general principles. We should

wish to see the plan carried into execution in all towns and villages, or wherever people of different trades and pursuits are associated together in numbers of three or four hundred. It seems to have at once the advantage of encouraging industry, frugality, and the desire and love of property. The interest and importance thus excited and produced, in the minds of the poorest and humblest laborers, must be most salutary. A man belonging to one of these societies will feel that he is something, because he has acquired some property, however small: and as this property may be increased by skill and labour, as well as by chance, he, having a greater stake in society, will play a more careful game himself, and will see that the game is fairly played by others. No man in any class of society is much to be depended on who has not some property; who is not connected with his countrymen and his country by some other tie than that of merely belonging to the same species. The natural desire of having something we can call our own, is one reason why the poorest men marry soonest; to have a wife and family, they feel, at once renders them of some importance, because they have something belonging to them and depending on them. They can no longer be esteemed an isolated point, or an unconnected fragment, but a perfect whole; and as soon as childrenn are produced, a whole complete in all its parts. Where a young man takes a saving turn in early life, he does not marry so soon, partly because his savings are something to set his heart on, and partly because every day he feels more and more the importance attached to property. Marriage he looks forward to at a future day, and he also looks to marrying some one, who, like himself, has saved a little property. The operation of this principle in young men is thus a cause of saving in the other sex, and, should a couple of young persons who have been saving, produce children, they are likely to educate them, and instil into them the same principles. With a view therefore to keeping population within due limits, these Co-operative Societies will not be without their use, and more especially when they are connected, like the Brighton Society, with the education of the rising generation; for any plan for the amelioration of the laborious classes, in which this is not included or supposed, can only be considered of temporary use. We reserve a good deal more which we have to say on this subject, till we review in a succeeding Number the two publications alluded to; in the mean time, we should be glad of further information, and of the opinions of different readers. —*Cond.*

"Keeping population within *due* limits," is the consequence of the improvements of society; which is far better than "wars to thin their ranks."—*Ed. N. Y. Farmer.*

ART. 136.—*On the Introduction of Botany into the System of Education in Village Schools.* By Y. [From the Gardener's Magazine.]

Sir.—Numerous plans have of late been proposed for the amelioration of the laborious classes, but some from their generalisation affording nothing definite left the subject where they found it, and others will never be effected except in a state of society widely different from the present. It was perhaps to be expected, that in the search after perfection many intermediate improvements would be overlooked; yet still, the instruction of the husbandman in the nature of the objects of his future occupation is one of such obvious utility, and so easy application, that the wonder is that it has not been adopted long ago.

Botany is a science peculiarly adapted to the countryman; its objects are continually before his eyes; they have been the delight of his childhood, and if he be made acquainted with their properties, may become the solace of his age. There is no good reason why the system of Linnæus should not be taught in every village school in the kingdom. If it should be asked, where shall we find masters? I would answer, make botanical knowledge essential, and men duly qualified will soon offer themselves; while the present masters will quickly acquire a system, which only needs perseverance and the share of intelligence usually bestowed on mankind. As to books, short catechisms might easily be framed to teach the classes and orders; and the meanings of the technical terms might be taught, as those of other words, by means of spelling books, and with as much facility. Cheap magnifiers might be awarded to the more advanced; and, on completing their study, a *Galpine's Compendium*, or some such work, which would serve them for a dictionary of plants all their days. Only set the system going, and books good and cheap will soon be found.

We are told that the Arcadians were the most savage of all the Greeks, till Pan taught them music. We admire the fable, let us profit by the moral. I would not counsel the erection of schools of music over the country, though these may one day be thought as necessary as grammar schools are now; but I would have music indirectly encouraged, by rewarding the school exertions of the children with musical instruments, the boys with flutes, the girls with flageolets. All have not a musical ear, but many have possessed it, and died in ignorance of the rich gift which nature had bestowed upon them; and how much time would have been rescued from the alehouse, and how much money saved, if they had known the pleasure which even indifferent music can give to a lonely hour!

Here then, is a plan which might be put in practice to-morrow, with equal gratification to the scholar and

utilitarian, and yet nobody thinks of it. It is not an improvement affecting separate bodies of artisans, but a whole population; it does not influence the workmanship of our furniture, or the texture of our apparel, but the manners, the morals, the happiness of a whole people. The mind is dazzled with the prospect of its probable effects. Before half a century should pass away, the moral face of the country might be totally changed; alehouses forsaken, gaming & quarreling fled forever, and happiness & peace come to make their everlasting abode amongst us. And who are the men to carry this into effect? The men of all others best qualified to appreciate it, the clergyman and the landlord; the very men who will gather most pleasure from it, the former in contemplating improved morals, the latter in beholding an improving tenantry. People talk of pastoral innocence and pastoral delight, "Sicilian groves and vales of Arcady," and yet never raise a finger to make their own vales echo with melody, or to adorn their groves with rustic elegance. Surely our groves are not to be lightly esteemed, and we have vales as sweet as Theocritus ever sung. But we choose to dream of by-gone days, and lament their loss, forgetting that it is in our own power to recall them. Do let us stir a little, let us try to effect something for lovely England: to form a population fitted for its beauty, and subjects for future idyls whose freshness and truth may leave the Doric reed far behind.

I am, Sir, yours, &c.

June 24, 1829. Y.

ART. 136.—*Remarks on the Construction and Management of Cattle Yards.* By J. Buel, of Albany. [From the N. Y. Memoirs.]

Vegetables, like animals, cannot thrive or subsist without food; and upon the quantity and quality of this depends the health and vigor of the vegetable as well as of the animal. Both subsist upon animal and vegetable matter—both may be surfeited with excess—both may be injured by food not adapted to their habits, their appetites, or their digestive powers. A hog will receive no injury, but great benefit, from free access to a heap of corn or wheat, where a horse or cow will be apt to destroy themselves by excess. The goat will thrive upon the boughs and bark of trees, where the hog would starve. The powerful robust maize will repay in the increase of its grain, for a heavy dressing of strong dung; for which the more delicate wheat will requite you with very little but straw. The potatoe feeds ravenously, and grows luxuriantly upon the coarser litter; while many of the more tender exotics will thrive only on food upon which fermentation has exhausted its powers. But here the analogy stops: for while the food of the one is consumed in a sound, healthy, and generally solid state, the food of the other, before it becomes aliment, must undergo the process of putrefaction or decomposition, and be reduced to a liquid or aeriform state.

I have gone into the analogy between animals and vegetables thus far, to impress upon the minds of our farmers the importance of saving, and of applying, the food of their vegetables with the same care and economy that they do the food of their animals. How scrupulously careful is the good husbandman of the produce of his farm, destined to nourish and fatten his animals; and yet how often careless of the food which can alone nourish and mature his plants. While his fields are gleaned, and his grain, hay, and roots carefully housed, and economically dispensed to his animals, the food of his vegetables is suffered to waste on every part of his farm. Stercoraries we have none. The urine of the stock, which constitutes a moiety of the manure of animals, is all lost. The slovenly and wasteful practice of feeding at stacks in the fields—where the sole of the grass is broken, the fodder wasted, and the dung of little effect—is still pursued. And finally, the little manure which does accumulate in the yards, is suffered to lie till it has lost full half of its fertilizing properties, or rotted the sills of the barn; when it is injudiciously applied, or the barn removed to get clear of the nuisance. Again—none but a slothful farmer will permit the flocks of his neighbours to rob his own of their food; yet he often sees, but with feeble efforts to prevent it, his plants smothered by pestiferous weeds, and plundered of the food which is essential to their health and vigour. *A weed consumes as much food as a useful plant.* This, to be sure, is the dark side of the picture; yet the original may be found in every town, and in almost every neighbourhood.

Is it surprising, that under such management, our arable grounds should grow poor, and refuse to labor its accustomed reward? Can it be considered strange, that those who thus neglect to feed their plants, should feel the evil of light purses, as well as of light crops? Constant draining or evaporation, without returning any thing, would in time exhaust the ocean of its waters. A constant cropping of the soil, without returning any thing to it, will in like manner exhaust it of its vegetable food, and gradually induce sterility. Neither sand, clay, lime, or magnesia—which are the elements of all soils—nor any combination of part or all of them, is alone capable of producing healthy plants. It is the animal and vegetable matter accumulated upon its bosom, or which art deposits there—with the auxiliary aid of these materials diffused in the atmosphere—that en-

ables the earth to teem with vegetable life, and yield its tribute to man and beast.

I will now suggest a cheap and practicable mode of *providing food for vegetables*, commensurate to the means of every farmer of ordinary enterprise; and that my suggestions may not be deemed theoretical, I will add, that I "practise what I preach."

The cattle-yard should be located on the south side of, and adjoining the barn. Sheds, substantial stone walls, or close board fences, should be erected at least on the east and west sides, to shelter the cattle from cold winds and storms—the size proportioned to the stock to be kept in it. Excavate the centre in a concave form, placing the earth removed upon the edges or lowest sides, leaving the borders ten or twelve feet broad, and of a horizontal level, to feed the stock upon, and from two to five feet higher than the centre. This may be done with a plough and scraper, or shovel and hand-barrow, after the land is broken up with the plough. I used the former, and was employed a day and a half, with two hands and a team, in fitting two to my mind. When the soil is not sufficiently compact to hold water, the bottom should be bedded with six or eight inches of clay, well beat down, and covered with gravel or sand. This last labor is seldom required, except where the ground is very porous. My yards are constructed on a sand loam, resting on a clay subsoil. Here should be annually deposited, as they can be conveniently collected, the weeds, coarse grass, and brake of the farm; and also the pumpkin vines and potatoe tops. The quantity of these upon a farm is very great, and are collected and brought to the yard with little trouble by the teams returning from the fields. And here also should be fed out, or strewed as litter, the hay, stalks and husks of Indian corn, pea and bean haulm, and the straw of grain not wanted in the stables. To still further augment the mass, leached ashes and swamp earth may be added to advantage. These materials will absorb the liquid of the yard, and, becoming incorporated with the excrementitious matter, double or treble the ordinary quantity of manure. During the continuance of frost, the excavation gives no inconvenience; and when the weather is soft, the borders afford ample room for the cattle. In this way the urine is saved, and the waste incident to rains, &c. prevented. The cattle should be kept constantly yarded in winter, except when let out to water, and the yard frequently replenished with dry litter. Upon this plan, from ten to twelve loads of unfermented manure may be obtained every spring for each animal; and if the stable manure is spread over the yard, the quality of the dung will be improved, and the quantity proportionably increased. Any excess of liquid that may remain after the dung is removed in the spring, can be profitably applied to grass, grain or garden crops. It is used extensively in Flanders, and in other parts of Europe.

Having explained my method of procuring and preserving the food of vegetables, I will proceed to state my practice in feeding or applying it. It is given, every spring, to such hoed crops as will do well upon coarse food, (my vegetable hogs and goats.)—These are corn, potatoes, ruta baga, beans and cabbages. These consume the coarser particles of the manure, which would have been lost during the summer in the yard; while the plough, harrow and hoe eradicate the weeds which spring from the seeds it scatters. The finer parts of the food are preserved in the soil, to nourish the small grains which follow. The dung is spread upon the land as evenly as possible, and immediately turned under with the plough. It is thereby better distributed for the next crop, and become intimately mixed and incorporated with the soil by subsequent tillage. Thus, upon the data which I feel warranted in assuming, a farmer who keeps twenty horses and neat cattle, will obtain from his yards and stables, every spring, two hundred loads of manure, besides what is made in summer, and the product of his hogsty. With this he may manure annually ten or twelve acres of corn, potatoes, &c. and manure it well. And if a proper rotation of crops is adopted, he will be able to keep in good heart, and progressively to improve, sixty acres of tillage lands, so that each field shall be manured once every four or five years, on the return of the corn and potatoe crop.

ART. 137.—*Slight Covering will protect Plants.*

[From the Encyclopædia of Agriculture.]

I had often, observes Dr. Wells, in the pride of half knowledge, smiled at the means frequently employed by gardeners, to protect tender plants from cold, as it appeared to me impossible, that a thin mat, or any such flimsy substance, could prevent them from attaining the temperature of the atmosphere, by which alone I thought them liable to be injured. But, when I had learned that bodies on the surface of the earth become, during a still and serene night, colder than the atmosphere, by radiating their heat to the heavens, I perceived immediately a just reason for the practice, which I had before deemed useless. Being desirous, however, of acquiring some precise information on this subject, I fixed, perpendicularly, in the earth of a grass plot, four small sticks, and over their upper extremities, which were six inches above the grass, and formed the corners of a square, the sides of which were two feet long, drew tightly a very thin cambric handkerchief. In this disposition of things, therefore, nothing existing

to prevent the free passage of air from the exposed grass, to that which was sheltered, except the four small sticks, and there was no substance to radiate heat downwards to the latter grass, except the cambric handkerchief. The temperature of the grass, which was thus shielded from the sky, was, upon many nights afterwards examined by me, and was always found higher than that of the neighbouring grass which was uncovered, if this was colder than the air. When the difference in temperature, between the air several feet above the ground and the unsheltered grass did not exceed 5 degrees, the sheltered grass was about as warm as the air. If that difference, however, exceeded 5 degrees, the air was found to be somewhat warmer than the sheltered grass. Thus, upon one night, when fully exposed grass was 11 degrees colder than the air, the latter was 3 degrees warmer than the sheltered grass; and the same difference existed on another night, when the air was 14 degrees warmer than the exposed grass. One reason for this difference, no doubt, was that the air which passed from the exposed grass, by which it had been very much cooled, to that under the handkerchief, had deprived the latter of part of its heat; another, that the handkerchief, from being made colder than the atmosphere by the radiation of its upper surface to the heavens, would remit somewhat less heat to the grass beneath, than what it received from that substance. But still, as the sheltered grass, notwithstanding these drawbacks, was upon one night, as may be collected from the preceding relation, 8 degrees, and upon another 11 degrees, warmer than grass fully exposed to the sky, a sufficient reason was now obtained for the utility of a very slight shelter to plants in averting or lessening injury from cold, on a still and serene night.

The covering has most effect when placed at a little distance above the plants or objects to be sheltered. A difference in temperature, of some magnitude, was always observed on still and serene nights, between bodies sheltered from the sky by substances touching them, and similar bodies, which were sheltered by a substance a little above them. I found, for example, upon one night, that the warmth of grass, sheltered by a cambric handkerchief raised a few inches in the air, was 3 degrees greater than that of a neighbouring piece of grass which was sheltered by a similar handkerchief actually in contact with it. On another night, the difference between the temperatures of two portions of grass shielded in the same manner, as the two above mentioned, from the influence of the sky was 4 degrees. Possibly, continues Dr. Wells, experience has long ago taught gardeners the superior advantage of defending tender vegetables from the cold of clear and calm nights, by means of substances not directly touching them; though I do not recollect ever having seen any contrivance for keeping mats, or such like bodies, at a distance from the plants which they were meant to protect.

ART. 138.—*Of Electricity.—Its Effects on Vegetation.* [From the Encyclopædia of Agriculture.]

Electrical changes are constantly taking place in nature, on the surface of the earth, and in the atmosphere; but as yet the effects of this power on vegetation, have not been correctly estimated. It has been shown by experiments made by means of the voltaic battery, that compound bodies in general, are capable of being decomposed by electrical powers, and it is probable that the various electrical phenomena occurring in our system, must influence both the germination of seeds and the growth of plants. It has been found that corn sprouted much more rapidly in water positively electrified by the voltaic instrument, than in water negatively electrified; and experiments made upon the atmosphere show that clouds are usually negative; and, as when a cloud is in one state of electricity, the surface of the earth beneath is brought into the opposite state, it is probable that in common cases the surface of the earth is positive. A similar experiment is related by Dr. Darwin. (*Phytologia*, sect. xiii. 2, 3.)

Respecting the nature of electricity different opinions are entertained amongst scientific men; by some, the phenomena are conceived to depend upon a single subtle fluid in excess in the bodies said to be positively electrified, and in deficiency in the bodies said to be negatively electrified. A second class suppose the effects to be produced by two different fluids, called by them the vitreous fluid and the resinous fluid; and others regard them as affections or motions of matter, or an exhibition of attractive powers, similar to those which produce chemical combination and decomposition; but usually exerting their action on masses.

A profitable application of electricity, Dr. Darwin observes, to promote the growth of plants is not yet discovered; it is nevertheless probable, that in dry seasons, the erection of numerous metallic points on the surface of the ground, but a few feet high, might, in the night time, contribute to precipitate the dew by facilitating the passage of electricity from the air into the earth; and that an erection of such points higher in the air by means of wires wrapped round tall rods, like angle rods, or elevated on buildings, might frequently precipitate showers from the higher parts of the atmosphere. Such points erected in gardens might promote a quicker vegetation of the

plants in their vicinity, by supplying them more abundantly with the electric ether. (*Phytologia*, xiii. 4.) J. Williams (*Climate of Great Britain*, 348.), enlarging on this idea, proposes to erect large electrical machines to be driven by wind, over the general face of the country, for the purpose of improving the climate, and especially for lessening that superabundant moisture which he contends is yearly increasing from the increased evaporating surface, produced by the vegetation of improved culture, and especially from the increase of pastures, hedges, and ornamental plantations.

ART. 139.—*Sowing Clover Seed.* [From the Long Island Journal.]

Mr. Editor—In one of your numbers, I noticed some inquiries respecting the quantity of clover seed sown on the acre, and the time of sowing it. Having, as much as circumstances would permit, connected *experiment* and *observation* with my agricultural pursuits, I am induced to offer the result of some of them, as an answer to your inquiries.

A number of years ago I was in the habit of sowing part of my grass seed in the fall with the wheat, and the remainder over the same ground in the spring. While I pursued this method, my seed in no instance failed of taking root. But observing that my neighbors sowed all their seed in the spring, I discontinued my old practice and adopted theirs. The consequence was, that I often failed. The failure was owing to a variety of causes—sometimes the weather in the spring was unsuitable for sowing—at others the drought would kill the grass after it had taken root. If part of the seed only is sown in the fall, and harrowed in, it will always sprout, and never choak the wheat.

The last year I tried another experiment. In the fall I sowed on half my lot, with the grain, my usual quantity of clover seed, and harrowed it in. The following spring I sowed the other part.—The clover came up in both parts equally well. But during the dry weather of the past summer, the clover which was sown in the spring entirely dried up and disappeared. But that which was sown in the fall, continued to afford excellent pasture during the whole summer. One reason why I suppose this succeeded better than the other, is, that it had time to take deeper root before the dry weather commenced.—And the ground being light it was not so much affected as even that which had become hard by being in sward several years.

My usual quantity is from eight to ten pounds of clover seed to the acre—sometimes I even sow twelve pounds. If the land is rich and only four or five pounds put on the acre, the clover grows rank and coarse, and it makes very poor hay. But if ten pounds are put on, the hay is finer, better and far more profitable.

Yours, &c.

Long Island, 1825. J. R.

ART. 140.—*Extract from an Article on the Necessity and Advantage of enquiring scientifically into the Practices and Results of Horticulture.* By Joseph Hayward, Esq., Author of *The Science of Horticulture*, and other Works. [From Loudon's Magazine.]

It is known, than when animal and vegetable substances are deprived of life, and left to nature, a spontaneous decomposition takes place, by what is called fermentation; and it appears, that during the process of the putrefactive fermentation, carbon is liberated in the greatest quantity, and reduced to a state that is best appropriated as food for plants; and that, at the same time, a part of the carbon which is liberated by this process, unites to oxyen, and forms carbonic acid gas; and a part also unites with hydrogen, and forms carburetted hydrogen gas; and, when in this state, the carbon is dissipated and lost to the plants. To prevent this loss, and, as they say, at the same time to facilitate putrefaction, the chemists recommend the addition of quicklime to the fermenting mass; but in this I conceive, they are under a mistake; for, the formation of carburetted hydrogen gas being an inevitable consequence of putrefaction, any substance that will prevent such formation must be considered as obstructing the putrefactive fermentation. Quicklime, added to a fermenting substance, will no doubt hasten its dissolution, and at the same time prevent the formation of carbonic acid gas, but such a decomposition cannot be synonymous with putrefaction. And further, although quicklime will hasten the decomposition of animal and vegetable matter and retain the carbon, it will at the same time, form other compounds, which are not soluble in water, and therefore, although it prevents one loss, it will occasion another, and a greater. But, if lime be slaked before it be added to the fermenting matters, it will equally facilitate its decomposition, and form other compositions that will be perfectly soluble. But, however powerful as an agent in vegetation, lime may be; and there can be no doubt, that when properly applied, and under certain circumstances, it is capable of producing the most beneficial effects; I believe it will be found that it is not the most efficient that is produced by fire; nor that which acts with the greatest facility

in imparting to inert carbonaceous matter the active principles of fertility.

With a view to discover this, and thereby the means of preparing a substance that may be dissolved in water, and thus be capable of supplying plants with the requisite nourishment, without awaiting the result of the usual process of natural decomposition by the putrefactive fermentation, or of being under the necessity of stirring up the earth, or when in pots, of changing the soil, and thus disturbing the roots, I made a great number of experiments; and the substance which I found to be the most efficient in every respect, in imparting those principles to the soil, which is requisite to sustain plants in health and vigour, was the serum, or watery part of blood, which separates from the clotted part, or crassamentum, after it has been a few days taken from an animal. This substance, diluted with five or six times its quantity of water, and applied by pouring a sufficient quantity on the surface of the soil, to saturate the earth, to the depth of the roots, enabled plants of every description that we are in the habit of cultivating, when planted in a soil perfectly destitute of carbonaceous matter, to attain to the utmost size to which I had ever seen them grow in the most luxuriant soil; and such plants were thus brought to fructify at a much earlier period, and with greater vigour, than by any other means, or supply of food. The solid, or clotted part of the blood could not be made available, until reduced by decomposition; and as the putrefactive fermentation was unavoidably attended with obnoxious effluvia, I at first reduced it by lime, but although thus rendered soluble, and productive of fertility, it was not so much so as the serum. Desirous of ascertaining what peculiar principle was contained in the serum, that was not in the crassamentum, and what created the difference in those substances, I prevailed on an eminent chemist to analyse the blood of an ox, and the result was as follows:—

The Serum contained	
Water - - -	8784 parts
Albumen - - -	980
Alkaline salts - -	236
in every	10,000

The Crassamentum contained	
Water - - -	5620 parts
Albumen - - -	1400
Fibrine - - -	2400
Colouring matter - -	580
in every	10,000

The difference, then, in these two substances appears to be that the crassamentum contains no alkaline salts, and the serum no fibrine. Hence, concluding that the alkaline salts must be the medium of solution, I added potash, in the proportion of alkaline salt and water contained in the serum, to the crassamentum, and stirring it occasionally for eight or ten days, I found the greater part dissolved, and then drawing off the liquid part, and applying it in the same manner as I had the serum, it proved to be equally efficient. And as the potassa did not appear so capable of effecting a complete solution of the clot, I added some slacked lime, which answered the purpose, and reduced the whole to a state of solution. Having by a variety of experiments with alkaline salts, been led to conclude, that as they imparted no fertility to soils that were destitute of carbonaceous matter, and that this requisite principle in the food of plants, and contained in the serum, must be furnished by the albumen, I referred to the analysis of this substance, to ascertain the elements of its composition, which are as follows:—

Albumen contains		Fibrine contains	
Carbon	53 parts	Carbon	53 1-2 parts
Oxygen	24	Oxygen	19 1-2
Hydrogen	7 1-2	Hydrogen	7
Nitrogen	15 1-2	Nitrogen	20
in every	100	in every	100

Here we not only have a proof that carbon is the variable substance, and that its absence or presence determines the degree of fertility of the soil; but we also discover the most efficient principle or agent for rendering it available to plants, and such as appears prepared for the purpose by nature, which is alkaline salt. The alkaline salts have, no doubt, been occasionally noticed as being productive of fertility, but as their principles of action were either not understood, or not properly defined, their utility has never been established. I have never seen alkaline salts described as necessary, or valuable ingredients in the food of plants, in any chemical work. We know that alkaline salts are the production of vegetables, but, as has been observed, the result of actual experiment proves that alkaline salts do not impart fertility to the soils that are destitute of carbonaceous matter; and by the recent experiments of Sir Humphery Davy, it appears that alkaline salts are not, as they were previously considered to be, elementary substances, but compounds, formed of a metallic substance and oxygen; and that such metallic substance has such an affinity for oxygen, that it cannot exist in a separate state in contact with water. Any idea, then, that alkaline salts are reduced to their elements, and thus taken up by plants, must not be entertained.

It may be difficult to account for the existence of

alkaline salts in vegetables, or for their influence on vegetation, when blended with carbon; but in this, as in many other cases, although we find it impossible to divulge all the secret movements of nature, we may be amply rewarded for our study of, and attention to, her laws and principles; as we are not only thereby enabled to account for the effect of many important operations which have been hitherto conducted in uncertainty, but we may find the means of increasing our powers of fertilising the earth, in a twofold degree. By the reducing vegetables to ashes by fire, alkaline salts are produced; hence, then, may be traced the effect of the operation of fire in fertilising land, which is found to be different in different situations; for it is evident, that according to the nature and quantity of the vegetable and inert carbonaceous matter, contained in the soil submitted to the influence of fire, must be its fertilising effects. Stable litter is found, in the usual process of cultivation, to afford a more efficient compost than any other combination of vegetable and animal matters, and this may be traced to the urine of the horse, which is blended with the straw. The superior fermentative qualities of stable litter, over all other matters usually collected for generating heat, may also be traced to the urine of the horse; and is accounted for by the urine being found to contain more alkaline salts than that of bullocks. Thus, according to Sir Humphery Davy, the

Urine of the Horse contains

Carbonate of lime . .	11	parts
Alkaline salts . . .	42	
Mica	7	
Water and mucilage . .	940	
in every	1000	

Urine of the Cow contains

Phosphate of lime . .	3	parts
Alkaline salts . . .	24	
Mica	4	
Water and mucilage . .	969	
in every	1000	

Hence it may be seen why the urine of the horse is more fertilising than that of the cow, and why a compost made of the dung and urine of those animals combined should be more fertilising than either, when applied to the land in a separate state, and which is always found to be the case. The facts being as stated, it must readily occur to every person, that an immense saving may be made, and a great accumulation of the fertilising principle, by collecting and appropriating the urine of animals, and blending it with their dung and other vegetable matters, instead of permitting it to drain off to waste, as it commonly is, from stables and cattle yards. It must be obvious, that if the refuse vegetable products of the garden and house be collected and placed in a shallow pit or reservoir, and the slop bucket emptied on it, or, when decomposed, some alkaline salts or slacked lime be added, a much more efficient mass of manure may be obtained, than by the usual method of disposing of it; or by digging it into the soil in a green or undecomposed state. Notwithstanding what has been said about excluding the air and rain from fermenting composts, it will be found, that when the means are provided for preventing the running off of the liquid, and that no other water be added than such rain as may fall on the surface of the dung heap, it will have lost nothing of its value by excess of moisture.

From what is here explained as to the application of blood to plants, it must be seen, that the barely supplying a plant with nutricious matter, is not enough to insure a healthy, vigorous, and prolific growth; as such effects depend upon the proportion of matter, and the time, or season, and manner of applying it. This, therefore, requires to be duly understood, and shall form the subject of a future paper from,

Sir, yours, &c. JOSEPH HAYWARD.

ART. 141.—*Letters from a Gentleman on a Tour through the Middle and Western States.* Continued from page 217. [To the editor of the New-York Farmer.]

June 22. We yesterday attended church in Georgetown, and were amused to hear the clergyman, a worthy old man, preach a sermon against intemperance. He spoke without notes, and introduced many quotations, as was formerly the custom among divines. There seem to be great exertions making in all parts of the country to put a stop to the extensive evil of drinking ardent spirits—and we think every man ought to lend his aid by *example*, which we all know is far more powerful than *precept*. Mr. Adlum has done much to introdnce Grapes; and, of course much to put a stop to intemperance,—as it is admitted, we must have a substitute before an effectual stop to this growing evil can be effected. Mr. Adlum has chosen quite a secluded spot for his vineyard. A stranger who has heard much of it, is generally disappointed, that the vines should be climing on ordinary stakes and poles, when a little taste in the arrangement would have added much to the appearance. However, the fruit looked fine and was very abundant.

June 23.—VISIT TO A NUNNERY. We have just

returned from a visit to a Catholic Monastery, in Georgetown, (near Washington city) with which we were highly gratified. The site of this Monastery is in the northwest part of the town. It stands on the borders of "the heigths," and overlooks the body of the town below. The enclosure embraces about one acre. On the north side is the Academy conducted by the Nuns, consisting of a long range of buildings, three stories high. In the middle of the front or eastern side, stands the chapel. On the left of the chapel is the room of the Father Confessor, and also the private apartments of the Nuns, into which no unhallowed tread of the worldly and profane is ever admitted. The following description is from the pen of a late visitor:—

"The Academy or High School for ladies, is the most interesting appendage of the Convent. It contains a boarding school of upwards of one hundred pupils—and a free or charity school of a much larger number of day scholars. What strikes the visitor with most pleasure, is the perfect system and order with which every thing is done. All is perfect clock work. The young misses who compose the school are regularly and rigidly trained to do every thing on plan and method.

"We first entered a long passage. Here were fixtures prepared for the cloaks, bonnets, &c. of the pupils, each numbered from 1 to 150; and each pupil has her particular number. The next room we visited was another long passage, adjoining the dormitories. In this was an extended range of wash stands reaching through its length. Here the pupils commence their morning toilette. Each stand is furnished with bowl, pitcher, napkin, soap, combs. brushes, and each numbered. The same is true of the beds or couches in the dormitories—of the departments or divisions of their common wardrobe—of their seats in the dining or study halls, and even of the depositories of their shoes, &c. Each pupil has the same number throughout the establishment.

"The Seminary is divided into four classes. The hall of the first class contains an extensive cabinet of minerals, to which many rare and valuable specimens have been presented by the officers of our navy, and by Catholics of the eastern world. It has also many rich specimens of art—the contributions of wealthy and powerful patrons of the church. The sword, sheath and belt of Iturbide—once a hero of South America, two of whose daughters are now in this Convent—was recently presented to the Cabinet by Commodore Rogers. It also claims to have many sacred relics, such as shreds or scraps from the garments of numerous saints—fragments from the church and tomb of St. Peter, and of other saints—pieces of the wood of the cross, &c. of which the industry and credulity of the Catholics in the east have collected enough in the last 1400 years to build a ship of the line. These relics, so says tradition, have been carefully preserved by a long line of Popes, Bishops, and Priests, and distributed among the churches and their convents, as the memorials of many precious and hallowed associations. The veneration with which they are regarded by Catholics is well known. The same hall containing the cabinet has a good chemical labaratory.

"After visiting the other rooms, our conductress led us to the domestic apartment, where the culinary operations of the great family are performed. This is kept with great care; every thing was neat, bright and clean; and but for the implements of housewifery carefully arranged about the room, one might have mistaken it for a drawing-room.

"One feature in the training of these young ladies we were wonderfully pleased with. It is this: two of them are taken every week by rotation, and placed in this parlor-kitchen, where, under the instruction of one of the sisterhood, they perform all the operations of housewifery for the week. They make the bread and bake it—the puddings, tarts, pies, cakes, &c.—They roast the beef and fowls, and in short perform the whole labor of house keeping, except the drudgery. At the end of the week they return to their study, and two others take their places. This is as it should be—domestic education is almost wholly overlooked with us. Young ladies are trained up as if to to charm and please, and grace the drawing room, were to be the sole business of their lives. They are taught to sing, dance, to play the piano and guitar, to read bad French and write worse English, to trifle gracefully, (all of which, we acknowledge, we like very well, if backed by *solid* attainments) and now and then one to think profoundly; but not one in ten, on arriving at a proper age to take care of a family, knows how to make a pudding or a pie that would be eatable, unless she were to make it "by book."

"The chapel in this convent will not vie in wealth with those of the older convents in Catholic countries. Its architecture and furniture are not splendid. It is supplied, of course, with the usual furniture of vases, altars, candlesticks, images, statutes, and pictures. Every thing is ordered for effect. The imposing form of worship, heightened by the numerous visible objects of sacred or superstitious regard, backed by the wily influence of their priests, and the enthusiastic earnestness of the Nuns, are well suited to captivate the imaginations of young and giddy school girls. Of their Seminary, their plan, their broad, rigid, and thorough system of education, we think well; but at the same time, we cannot think it safe, or at all consistent for the Protestants to send their daughters there—as many do.

"The number of Nun sin this Convent, at present, is about sixty. Among them are desendants of many rich and powerful families. Their employment consists in confessions, vigils, fasts, penances, reading and religious exercises, in teaching, in domestic concerns, and in making fine needle work for sale. The Charity School embraces about 200 day pupils. For their humanity and benevolence in collecting and teaching these children, the Nuns deserve praise.—In these employments they appeared happy; but the happiness of these devotees, if real, must be of the negative kind.

'In one respect we were much disappointed. Instead of finding in the Convent a set of rigid, sour, female ascetics, we met with cheerfulness."

[The following article, taken from the U. S. Literary Gazette, is recommended to an attentive perusal by the readers of the Farmer. It contains information collected from voluminous works—and adapted to the state of our own government. This age is distinguished for an increased attention to the science of political economy—a science intimately connected with individual and national prosperity.]

ART. 142.—*The Principles of Political Economy. Considered more practicably in their application to the industry and general interests of the United States.*

Wealth.—As human wants increase, in the progress of man from his primitive state towards that of civilization, so must his labor for their supply increase with them.

With the increase or labor, habits of industry are formed, the land is improved, the arts arise and are advanced, production is increased, wealth is accumulated, end each successive generation is thus supplied with additional means of accellerating production and increasing wealth.

Individual wealth is that, whatever it may consist in, which gives the possessor of it, in all places within the sphere of civilization, and at all times, in sickness as well as in health, a command over all objects, whether of necessity or desire, which are of an exchangeable nature.

National wealth is not the aggregate of individual wealth, inasmuch as this in part consists in public and private debt.

But national wealth consists of the aggregate of public, private, and corporate property, so far as this is composed of material things having a real and inherent value, and of property in debts due from abroad; deduct, from the sum total of this aggregate property, the amount of public, corporate, and private debt, which the nation owes abroad, and the balance is the amount of national wealth.

Although a portion of individual wealth enters to make up the aggregate of national wealth, namely, that portion which consists in material objects of intrinsic value and of debts due from abroad; yet it does not follow that every accession to individual wealth is an augmentation of national wealth, or that what promotes the interest of an individual must necessarily promote that of the public.

Individual fortune may rise from speculation, or transactions which produce a gain to one from the loss of another, but by which the nation is none the richer.

As the productive industry of the nation is the source of its wealth, transactions and operations which discourage it, however individually profitable, are prejudicial to public interests;—whereas those pursuits, transactions, and operations, which encourage and promote industry, are those which are most conducive to the public prosperity and wealth.

Capital.—Capital is either fixed or circulating, and is that portion of wealth which is employed by the productive classes in the community, for purposes of income and profit.

The means employed by productive industry in production, consist in land, live stock, rude materials, the powers of nature, and products; and so far as these means are individually appropriated they are collectively called capital.

Property in any of these objects, if unemployed, or only employed for pleasure, is not called capital. It is then, if spoken of in the abstract, called wealth; or, if spoken of in respect to its ownership, it is called property simply.

Capital conduces greatly to increase the power of productive industry; and the different branches of it are more or less productive, in proportion as capital is made to perform more or less of the work in the process of production.

In agriculture, the fertility of the soil and the implements of husbandry; in the fisheries, the vessels, boats, and fishing-takle; in manufactures, the machinery and the powers of nature, by which it is made to work; in the mechanic arts, the tools of the workmen; and in commerce the money which takes off the surplus products of the preceding branches, and replaces to them the cost of production with a profit, together with the shipping employed in the transport and distribution of these products; all afford exemplifications of the manner in which capital operates to facilitate and accelerate production.

With the increase of production, circulating capital is first increased; and as this increases, so does the income; and with that the value of fixed capital increases.

These two kinds of capital are not convertible into each other by the simple exchanges of one for the

other. When a merchant quits trade and enters into manufacture, he does not thereby convert his circulating capital into fixed; his circulating capital goes into other hands, and he gets a fixed capital in manufacture in exchange for it. So when a farmer enters into trade, or a trader into agriculture, they do not transfer their capitals from one employment to the other; but their capitals acquire other owners, and remain as before, while they acquire other capitals in exchange.

It is not by exchanging capital in one employment for capital in another that the profits of capital in different employments are equalized; but it is through the employment of labour, by which the relative quantities of the different capitals are changed, that the profits on the different employments of them find their level.

When capital in manufacture yields more income than capital in commerce, the commercial capital is employed through the means of labour to increase the manufacturing capital, until the incomes from both become equal. But though the manufacturing capital is augmented by these means, the general circulating capital is not thereby diminished. The money paid for labour is not consumed; and the necessary consumption of the labourer is the same as tho' he were not thus employed.

The income from fixed capital is increased by the increase in quantity of all those commodities of which the circulating capital is composed, and it is reduced by the reduction of these commodities.

The value of fixed capital, or its nominal amount, rises and falls with the rise and fall of its income.

It therefore follows that every person, whose capital is in real estate, or fixed property, is interested in encouraging the production of exchangeable commodities in all branches of industry, as *the only means* by which the incomes of their estates can be increased, and, with the increase of the incomes, the value of of the estates enhanced.

And the most effectual means of encouraging to increased production in existing branches, are by promoting the establishment of new ones, which will excite to greater activity in all.

Utility, Value, and Price.—Things may possess utility; but unless they are objects of exchange, they have no value.

The value of things arises from exchange; and the value of any particular article is estimated by the quantities of other articles at large, which it will purchase.

The price of an article is its value estimated in money, or the quantity of money it will command.

It is by price, which denotes the value of things in relation to money, that we compare the money-value of one thing with another, and thus determine the relative value of each.

Practically, there is only this kind of value, and this kind of price, known in the estimation of things. Commodities are exchanged for each other at their relative values, and they are exchanged for money at their actual prices.

To the possessor, the utility of an article depends upon his own use of it, and its value and price depend upon the want which others may have for it, and what they are willing to give for it.

Between want and supply arises demand, and according as want or supply may predominate, demand will increase or diminish, and the value of things rise and fall proportionally.

Wants multiply with the means of satisfying them; wherefore, in the general increase of commodities, which supply these means, the demand for any one kind, which may remain stationary, will be augmented, and the value of it consequently enhanced.

The variations in the demand for consumable commodities are according as the present and prospective production may exceed, or fall short, of the quantities required for the supply of the present and prospective consumption.

And the variations in the demand for things of an unconsumable nature, as land, houses, money, &c. are according as the quantities, which come into the market, may exceed or fall short of their present and prospective uses.

The value and price of a commodity rise or fall with demand, which will be, as before observed, according as the quantities of other commodities, including money, increase or diminish, while the quantity of this commodity remains unchanged.

If the quantity of money be increased, while the quantities of all other commodities remain stationary, more money must be given in exchange for each of them. In this case the demand for money is reduced, while the demand for every other commodity is augmented. In other words money is of less value and all other commodities of greater.

If the quantity of wheat be increased, while that of other commodities remains the same, more money must be given in exchange for each of them; that is, wheat is reduced both in value and price, while all all other commodities are augmented in value, though not in price; for the proportion between the quantity of these and of money remains unchanged. If in consequence of a short crop of grain throughout the country the price of it should be doubled, the value of all other articles in relation to grain will be diminished one half. That is, twice as much of every thing must be given in exchange for grain. So far, the national wealth remains the same in value. What the consumer loses by the enhancement of the price,

the producer gains. But should the nation import grain from abroad to supply the deficiency for necessary consumption, as much in amount as the quantity imported costs, so much in amount will the general wealth be reduced by the deficiency of the harvest.

In proportion to the aggregate increase of productions may any single product be increased, without any diminution of its demand or its value.

And in proportion as products are multiplied and accumulated, so will the value of lands, buildings, and all other objects of which the quantity is fixed or stationary, be increased.

Public measures, therefore, which, by protecting industry, lead to a multiplication of its products, and thereby to the augmentation of the general circulating capital, are measures which, in doing this, do as a consequence cause an augmentation of the income, and with that an increase of the value, of all real estate.

Distinction between Wealth and Value.—Wealth is positive, value is relative. Wealth, as distinguished from value, consists in the positive quantities of material objects of necessity or desire, which have exchangeable value, or which possess utility conferred by labor, without exchangeable value. Value consists in the relative quantities of things, and of those only which are objects of exchange.

If the quantities of all objects having exchangeable value be diminished in equal proportions, wealth, so far as it consists in these objects, would be diminished thereby in the average proportion; but the exchangeable value of each object would remain the same and undiminished; for each object would still command the same quantity of every other object, that it did before the proportionate diminution.

The aggregate, however, of the diminished quantities of these objects would not support the same quantity of labour, or the same number of individuals as before; and in either circumstance the diminution of wealth plainly appears.

Metalic Money.—Money is chiefly of gold and silver. It is in coin circulating by tale, or in mass circulating by weight.

It is introduced by foreign commerce, in exchange for the products of native industry.

It is one of the constituents of wealth, and is its universal representative. Like wealth, it gives its possessor, in all places within the sphere of civilization, a command of all objects of necessity or enjoyment, which are of an exchangeble nature. It is, by the common consent of all nations, the medium thro' which one thing is exchanged for another, and the standard by which the relative values of things in exchange are measured.

Less money is required to facilitate the exchange of commodities when their circulation is rapid, than when it is slow.

The variations of the value of money are caused by the greater or less demand there may be for it compared with the supply.

The value of money is greater in proportion as the actual supply is less than the present demand; and its value is less, in proportion as the actual supply of it is greater than the present demand

The increase of money, if it be employed to promote industry, is beneficial: it increases property. But if it merely beget speculation and augment expenditure, it is injurious; it diminishes property.

The interest of money, while it is held on hand, being lost, people will not hold a greater quantity by them, than what their occasions require. More than this, therefore, will not be retained in circulation: and any surplus which may arise, will from time to time go off to the public benefit by its employment in foreign commerce.

To prohibit by law the exportation of money, increases its value in relation to the products of the country, which prohibits it;—and diminishes its value in relation to all imported commodities.—In other words, it causes native products to fall in price, and foreign commodities to rise in price.

The foreign commodities will rise in price, in consequence of the hazard and expense incurred in geting out of the country the money which may be given in payment for them; and the native products will fall, in consequence of the increasing scarcity of money caused by its constant departure; for in spite of the law to prevent it, it will find its way out, to seek for more profitable employment in countries where it has more extensive uses, and from which it will not be likely to return again.

Money will never leave countries, where its employment is free and unlimited, to take up its abode in those, where its movements are limited and its employment restricted.

The effect of this prohibition, therefore, seems to be to produce a scarcity of money, to lower the price of native products, and as a consequence of this, to check the progress of industry and wealth.

Bank Currency.—Bank Paper is used as a substitute for metallic money. It carries with it a bank promise to pay on demand the sum of money which it represents, and while this promise is observed with good faith, it performs all the functions of metallic currency.

The banks issue their notes by loans on interest; and as the more they issue the greater their profit, they are tempted to loan out more than circulation can retain. They soon learn however, by experience, what quantity they can keep out without its re-

turn for specie. But if nevertheless, greedy of gain, they issue more than they can redeem, and suspend payment, they commit a deliberate fraud upon the holders of their paper, to the amount of the depreciation which will consequently take place.

A legislative check to banks discounting on their own stocks would render them more safe, as well to a portion of the stock holders as to the community at large, and tend to prevent the unnecessary multiplication of them.

Most of the losses which the public have sustained from bank failures, have been owing to the means which discounting on their own stocks have afforded to speculating and unprincipled individuals to obtain their direction.

And the needless multiplication of banks is also owing to the facility, with which, by this kind of discount, they can be got up, with the advance of little or no capital.

The increase of banks, when the supply of their paper is already equal to the demand, is a loss to the community, in as far as it is an increase of expenditure, without any increase of utility.

The banks cannot together force into circulation over a limited amount of their bills, and for this reason, that as there is a loss of interest on all money kept on hand, people will not keep more by them than their immediate occasions require, and the surplus there may be will consequently be returned to the banks for specie.

When one bank forces out more than its proportion of bills into circulation, it is by crowding out in the same proportion the bills of other banks.

When a bank at one place is established with the capital of another place, the money, as it is loaned out, goes off in exchange for commodities which come in, or for things already there, but owned or owed for elsewhere; and, after a short period, the amount retained in circulation will be about the same as it was before.

In as far as the multiplication of banks has a tendency to increase expenditure without in a corresponding degree increasing industry, it leads to great embarrassment, as has been the case throughout the interior of the Union.

When banks, however, are controlled by judicious checks, the use of their paper is a saving to the community, to the amount of the interest of the metallic money, which it releases from circulation, and which, being then set at liberty, goes to increase the capital employed in foreign commerce H. C.

It betrays limited reading and superficial thinking, to express any wonder how an editor or an author can get matter to fill his book.

ART. 143.—*Natural History.* [By the Editor.]

——Science has sought on weary wing
By sea and shore, each mute and living thing.

Natural History in its most extensive signification, includes all objects both animate and inanimate. But for the more easy acquisition of knowledge, mankind, observing the various characteristics of natural bodies, have made a three fold division—into the *mineral*, *vegetable*, and *animal* kingdoms. The science of mineralogy includes the first, botany the second, and zoology the third. The two last are more properly the sphere of *Natural History*, particularly zoology; which treats of all the living creatures on the globe. The cultivators of Natural History have arranged the animal world into two grand divisions, and nine distinct classes, as in the following table:

1st, Vertebral Animals—or having Skeletons.

CLASSES.	
1st Mammalia (nourish their young with milk,	warm red blooded.
2nd Birds	warm red blooded.
3rd Reptiles	cold white blooded.
4th Fishes	cold white blooded.

2nd Invertebral Animals (without Skeletons.)

CLASSES.	
5th Insects	white blooded.
6th Crustacea (including the crab, lobster &c.(	white blooded.
7th Mollusca (squid, oyster, clam muscle, &c.	white blooded.
8th Vermes or worms	white blooded.
9th Zoophytes (star fish or fingers, intestinal worms &c.)	white blooded.

On account of the great variety in the structure and habits of each class, of insects for instance, there is a necessity for a further division into *orders*. The ant, wasp, bee, &c. are arranged into an order. But to assist the student of natural history to acquire more particular information, the orders are divided into *genera*, which comprehend animals that have a general external resemblance, a kind of family likeness. Thus the genus Canis includes those of the dog and wolf kind.—The genus Equus, those of the horse, ass. and zebra. The next division is into *species*.—Each kind of animal constitutes a species. Several species taken together form a genus—several genera having well defined resemblance in structure and conformation, constitute and *order*—on a similar principal several *orders* form a *class*.

In furnishing a series of articles on this subject, we shall endeavour to make them comprehensible rather than learned.

CLASS 1.—MAMMALIA.

This class includes animals that bring forth their young alive. At the head of the Mammalia stands man, who, although wonderfully and curiously made, is

lord of the mundane creation, from the superiority of his intellect, rather than that of his corporeal organization. Still his whole structure is most admirably adapted for the performance of the innumerable offices of the station he holds. Other animals have some one property adapted to their peculiar state. Thus the limbs of the monkey are calculated for climbing; the fore legs of many other animals are adapted for free and quick motions, and furnished with claws for the purpose of securing prey; and those whose stomachs will digest only vegetable food are furnished with legs and hoofs peculiarly fitted to support the body. Some have either incisory or cutting teeth, canine or dog teeth, or molar or grinding teeth. It is from these and other parts that naturalists have made the nine following orders in the mammalia class.

1. The *Bimaaa*, (from *bis*, two, and *manus*, hand) or *two handed* animals. Man is the only example. His hands are a beautiful and admirable piece of mechanism.

2. *Quadrumana*, or *four handed* animals. Monkeys and baboons are of this order. They have hands on all four of their feet, but are less perfect than those of man. The erect position is not natural to them as it is with man.

3. The *Carnivora*, or *carnivorous* animals,—devouring flesh. A great variety of animals are embraced in this order; as the bear, the cat, the dog, the wolf, and lion.

These three orders have the three kinds of teeth, which differ in their form and strength, according to the habits and food of the different species.

4. *Rodentia* or *gnawers*—their teeth being adapted for gnawing. They have no canine teeth.—Claws similar to the carnivorous. To this order belong rats, squirrels, rabbits, &c.

5. The *Edentia* or *toothless* animals—always deficient in incisive teeth, and sometimes entirely destitute of teeth. They have long and crooked nails on their toes, obstructing their sensations and their motions. The armadillo and sloth are of this order.

6. The *Ruminantia* or *ruminating* animals are those that chew their cud.—Cloven footed and without incisive teeth in the upper jaw. The ox, camel, lama, stag, and antelope ruminate.

7. The *Panchydermata* or *thick skinned animals*, including a variety of animals with hoofs, that do not chew their cud, as the horse, wild boar, hog, tapir, and elephant.

8. The *Cetacea*, or animals of the *whole* kind, "distinguished by having no posterior extremities, and their anterior so constructed as to answer the purpose offins." Whales, porpoises, and dolphins are of this order.

9. *Marsupial* animals, not properly coming under either of the above orders, and distinguished from all others by the females possessing a *bag* or *pouch*, (marsupium) for the purpose of holding the young after birth. The opossum and kangaroo are marsupial.

Each of these orders, it will be perveived, is divided into *genera*, or *families*. Under the *Carrivora* for instance is the family of the dog. But there are various kinds of dogs, therefore there is a necessity for another division, called *species*—a greyhound is a species of the dog. If hounds vary in color or other appearances, the difference is denoted by the word *variety*.

Every young farmer should be familiar with the names of the classes and orders; and with a little practice in arranging the animals, he will soon find difficulties to vanish, and his knowledge to become systematized and greatly extended.

(*To be continued.*)

ART. 144.—*Observations on the Drug Sarsaparilla.* [From the New England Farmer.]

On the history of this well known plant, it is not my intention to dwell, but merely to point out its adulteration, and distinguishing marks as a drug. The genuine plant was probably first used in the simple materia medica of the savages of Mexico and South America, from whence its was originally brought, and from which country alone it still continues to be imported. Its extensive use of late years in empirical preparations, has given, no doubt, considerable value to its substitues, and, in consequence, many druggists in this country are in the habit of vending a spurious article as such. In many places, if Sarsaparilla be inquired for, the root of a very different plant, *Aralia nudicaulis*, will probably be given, which, if not inert, may naturally be supposed possessed of very different qualities from the genuine drug. In fact, they are plants of natural families so perfectly distinct, that nothing can justify the substitution short of fraud. It is true that the late Professor Barton, of Pennsylvania, and later writers on our domestic materia medica, have given the *Aralia nudicaulis* (or *false Sarsaparilla*) a place in their notice, and attribute to it some degree of medical efficacy, and even an approximation to the true Sarsaparilla. But surely there are not sufficient grounds on which to put aside an important medicine, or to authorise so trifling a substitution, and hence, no doubt, arises often the discrepant opinions of physicians on the efficacy of medicine, which, if in much demand, are half the time substituted by spurious articles. In writing on this subject some time

ago to Mr. Carpenter, of Philadelphia, the well known druggist, he answered, that the Sarsaparilla of the United States had no efficacy, and that he could not employ it. (By which, no doubt, he meant the *Aralia.*) But independent of this common plant we have, according to the diagnosis of Linnæus himself, the genuine Sarsaparilla, indigenous to the soil, from the present vicinity, at least to Florida. This plant is the *Smilax Sarsaparilla*, said likewise to be a native in Peru, Brazil, and Mexico. It is one of the common *Green Briars* of the country, a name which they all have, commonly, in the middle and southern states. It is a climbing, slender, angularly branched, thorny, green shrub, with heart ovate, mucronate, three-nerved leaves, glaucous or bluish-green beneath; bearing small clusters of greenish flowers, succeeded by glaucous black berries. A good figure is given in Lamarch's Illustrations of Genera, plate 817, fig. 1. Such is the plant intended by Linnæus, but I have at the same time, great reason to suppose that the genuine Sarsaparilla is yet the produce of some different plant, as the roots of this do *not at all agree with the officinal drug!* Those of the real Sarsaparilla are exceedingly long, externally brownish, come in long coils, are almost everywhere of an equal thickness, and these, about the size of a goose quill, with a thickish bark, of rather an insipid, mucilaginous taste, and a slight bitterness, containing a great deal of fecula. The roots of the *Aralia* are quite pale, almost ash colour, of no great length, never coiled up, rather unequal in thickness, with a thick and circularly wrinkled bark, and possessing a little the taste of raw parsnip, peculiar to many other of the umbelliferous tribe of plants to which it appertains. In Europe the roots of several species of *Carex*, or Sedge grass are passed off for this drug, particularly *C. villosa*, there called German Sarsaparilla. It would be a very desirable acquisition to the country, to be able to obtain living roots or seeds of genuine Peruvian or Brazilian Sarsaparilla, which might then be cultivated to supply our shops. According to Humboldt, the best is obtained in the vicinity of Esmeralda in Brazil, and in the Sanish West Indies. Near upon 5000 quintals are annually exported from Vera Cruz.

Cullen, with his usual prejudice, underrated the value of this drug; and indeed its sensible qualities would seem to sanction the neglect. Its constitutional effect, aided by other things, has however, been long acknowledged, and it is known at this time to enter largely into a celebrated nostrum, for the cure of scrophula, and regular physicians in the middle and southern states have generally admitted the usefulness, if not efficacy of the compound extract of Sarsaparilla.* In Mexico and South America, according to Mutis, in his correspondence with Linnæus, it was confidently relied on as a specific for siphilitic complaints, mild, however, in their character. It is now more certainly relied on for a removal of the bad effects which are often the sequel of a course of mercurial medicine. M. Pallota has succeeded in separating from this drug an alkaloid substance termed *Parillina*, in which he supposed the principal virtue of the plant to reside, and describes its effects as extremely debilitating. Still the fluctuation of opinion in regard to the efficacy of medicines, diversified as are the circumstances under which they are administered, must continue as an opprobrium to the science, in which nothing is often more probable than fallibility; but to fail in alleviating human misery, is to fail in a great and good attempt.

T. NUTTALL.

Botanic Garden, Cambridge, Oct. 27, 1829.

* This preparation was; I believe, first made by Mr. Carpenter of Philadelphia.

ART. 145.—*Memoranda, applicable to Rural Economy.* [Selected.]

To obtain good Timber.—Bark the tree the year before it is cut down. By this means the alburnum is converted into wood.—*Loudon's Encyclopædia of Gar.* 174.

It is the sap in the alburnum, or white wood, which causes timber rapidly to decay. The sap contains saccharine matter, acids and mucilage which ferment with heat, and bring on a decomposition of the wood. By the process recommended, the moisture is exhausted without fermentation, and the pores of the alburnum contract and harden. Soaking boards and timber in water renders the sap thin, so that when taken out and exposed to the sun, it is more readily expelled. In the process of charring, the moisture is expelled; and not only this, but the coal (carbon) protects the timber from moisture, air, and heat, the great agents in the process of putrefaction. Charred wood is said to have been taken out of the ground at Constantinople, in a sound state, which had lain there seven hundred years.

Nutrition of Grasses in Winter.—In grasses, as well as in perennial trees and shrubs, there is more soluble matter in winter than in summer, and its specific gravity is greater in consequence of the economy of nature, which lays up nutritive matter for the wants of the plant in the spring, Davy, 223. The nutritive matter of the grasses is laid up in the joints; and consequently those having most joints are most nutritive. Hence the peculiar value of the agrostis family, particularly fiorin, for winter pasture. And hence by feeding close in autumn we deprive the

roots of grasses of a portion of their natural food, and they do not rise so vigorously in spring as when not fed. Although the stalk be annual, the influence of moisture and heat softens it in spring, and carries the nutriment to the crown; or decomposing upon the surface, it is carried to the roots through the soil.

Air.—The air is the receptacle, as well as the source, of all sublunary forms, the great mass or chaos which imparts or receives them. The atmosphere which surrounds our earth contains a mixture of all the active volatile parts of all vegetables, minerals and animals. Whatever perspires, corrupts or exhales, impregnates the air; which being acted upon by the solar fire, produces within itself all sorts of chemical operations—dispensing against those salts and spirits, in new generations, which it had received from putrefactions. The air, therefore, is an active mass, composed of numberlesss different principles, the general source of corruption and generation, in which the seeds seem to be latent, ready to appear and produce their own kind whenever they light upon a proper matrix.—*Bishop Berkley, Geor, Ess. vol.* 1, *p.* 348.

ART. 146.—*Dietetic Regimen in France and England.* [From the Journal of Health.]

What is ordinarily called the influence of climate on the human species, ought, in our opinion, to include the effects of the customary aliment which necessarily varies with the geographical situation of each country. Thus, in the north, the stomach calls for animal food and the excitation of spirituous liquors; whilst, in southern regions, bread and fruit only are used, and irritating drinks studiously avoided. The French are more sober than the Germans, because the mild temperature of their country enables them to substitute wine for the beer or distilled liquors of their neighbors. Under the burning sun of the Spanish peninsula, oranges, citrons, and a multitude of other fruits, abounding in juice, attain a maturity unknown in France, and the refreshing and delicious drinks of Spain, render the inhabitants still more averse to the effects of spirituous stimuli, while at the same time they care less for wine.

Madame de Stael attributes the severe character of the gloomy mythology of the northern nations to the perpetual fogs and rigorous winters of their climate; and she is perhaps right to a certain extent. But are not these distinctive traits rather the effect of that dullness of intellect so evident in those persons habitually accustomed to the use of violent excitants?

The inhabitants of the south are, on the contrary, gay, lively, and witty, independent of external objects, and much more disposed than the inhabitants of the north to seize upon the frivolous and transitory pleasures which at every moment are presented to them. The Frenchman always evinces a disposition to enter into a hundred trifling projects of pleasure, which the Englishman pretends to despise, while he secretly envies that pliancy of disposition which the climate of his country denies him; haughty and impatient, he only loses his heaviness when *porter* has rendered him inconsiderate and querulous. The extraordinary differences which we observe in the manner of living among the modern European nations, have been principally produced by the use of tea, coffee, sugar, and tobacco. Their introduction into common use is one of the most singular conquests of commerce. Who would have supposed three centuries ago, that the products of China and the West Indies would one day become the habitual aliment of the inhabitants, and servants even of the rustic population?

The following table, drawn up from authentic documents, may explain to a certain extent, the difference of manners observable in the two greatest nations of Europe.

Quantity of Sugar, Tea, &c. annually consumed in Great Britain and France.

		ENGLAND.	FRANCE.
Sugar	lbs.	448,000,000	128,000,000
Tea		22,750,000	195,000
Coffee		8,100,000	20,100,000
Tobacco		16,900,000	7,200,000
Wine	gals.	6,210,000	700,000,000
Spirituous liquors		28,020,000	5,700,000
Beer		420,000,000	155,000,000

But to be able to draw conclusions, we give as follows the relation which the consumption bears to the population of each country;—

For one million.

		ENGLISH.	FRENCH.
Sugar	lbs.	22,400,000	4,270,000
Tea		1,137,000	6,500
Coffee		405,000	670,000
Tobacco		845,000	273,000
Wine		810,000	23,300,000
Liquors		21,000,000	5,170,000

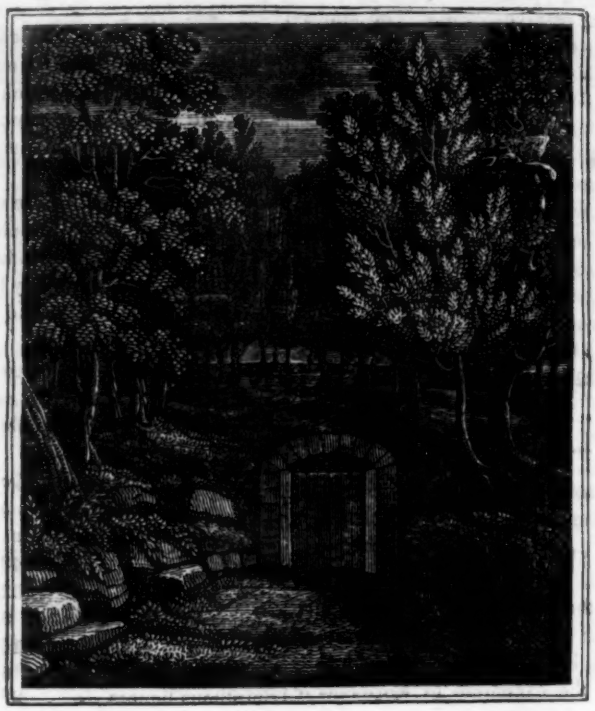
We have selected and translated the preceding article from one of our French medical journals, as calculated to interest the general reader. We hope to be able, on a subsequent occasion, to present a sketch of the proportion of the above articles consumed in the United States, accompanied with such reflections as naturally pertain to the subject of regimen.

ART. 147.—Landscape Scenery.—*Tomb of Washington, and Retreat of Dr. Johnson in Streatham Park.*

We have long designed to furnish our readers with information on rural scenery; but have been at a loss what plan to adopt that would be both interesting and useful. It is now our intention to give drawings of rural scenes, accompanying them with remarks that may be suggested to us, and which we suppose may tend to increase a taste for arboral embellishments.

The first represents the

Tomb of Washington.



Most people, particularly those that have arrived at eminence, wish their bodies, after death, to lie in some retired spot, overshadowed by trees where they can slumber in repose, and far from noise and strife. Burying grounds ornamented with trees and shrubbery are the most interesting places which country scenery exhibits; and nothing in our view, adds more to the charm and beauty of a country village than a tasteful burying ground. It denotes remembrance and friendship for the dead, and is an indication of tenderness of feeling, and mildness of disposition on the part of the inhabitants. The frequenting of such places, tends to calm the violent and angry emotions that are often excited in commingling with the busy world---animosities, jealousy, and revenge subside into tenderness and forgiveness. The tomb of the departed reminds of the injustice done--of duty neglected--rekindles subsiding love, and recalls scenes of intimacy and friendship, and when the inscriptions are appropriate, many are the impressive lessons.

Mount Vernon, the much celebrated spot, where lies one of the most beloved and exalted of men that have dignified human nature, is on the south side of the Potomac, Fairfax County, in Virginia. The mansion house is situated about two hundred feet above the level of the river, where it is two miles wide, and commands a fine view of the surrounding country.

Admitting the drawing to be correct, (of which have doubts) the first thing that strikes us as a defect, is, that there is nothing in the whole view that conveys to the mind of the beholder any certain intimation that it is a tomb; the next is, that the eye can discover no inclosure---consequently a dread feeling thrills the system, under an apprehension that the sportive beasts of the field may molest the peaceful slumberings of the dead. The stones in front of the vault afford the convenience of rest to the weary visitor, where he may indulge in those contemplations which the scene and his own feelings might produce.

Retreat of Dr. Johnson in Streatham Park.
(*See Engraving, page* 245.)

The aged tree in front adds much to the venerableness (if we may so express it) of the scene, and affords a contrast to the peaked trees in the rear, that seem to shoot to the very heavens. Had it been much nearer the house, the whole view would have been far less pleasing and striking. A seat of some kind, near the door, appears wanting, unless we suppose one concealed by the shrubbery, for the convenience of the Doctor when he would enjoy the cool shade.

We extract the following from the Cabinet, to which we are indebted for the cut.

"The engraving represents a secluded site in a beautiful park attached to a villa at Streatham, formerly inhabited by Gabriel Piozzi, who married the accomplished widow of Mr. Thrale. During the lifetime of the latter, Dr. Johnson frequently resided here; and the above rustic retreat was the favourite

Retreat of Dr. Johnson.

resort of the philosopher during his hours of meditation; for

> ——— 'Tis most true
> That musing meditation most affects
> The pensive secrecy of desert cell,
> Far from the cheerful haunt of men and herbs,
> And sits as safe as in a senate house.

and the fact of Streatham House having been a hospitable asylum for Johnson, and a "peaceful hermitage for his weary age," leads us to one of the most interesting portions of the illustrious man's biography.

Johnson's introduction to the Thrales, about the year 1765, was a good piece of fortune for the former. Mr. Thrale was an opulent brewer, and M. P. for Southwark; both he and Mrs. T. conceived such a partiality for Johnson, that he soon came to be considered as one of their family, and had an apartment appropriated to him, both in their town house and their villa at Streatham. Boswell says:—"Nothing could be more fortunate for Johnson than this connexion. He had at Mr. Thrale's all the comforts and even luxuries of life; his melancholy was diverted and his irregular habits lessened by association with an agreeable and well ordered family. He was treated with the utmost respect, and even affection. The vivacity of Mrs. Thrale's literary talk roused him to cheerfulness and exertion even when they were alone. But this was not often the case, for he found here a constant succession of what gave him the highest enjoyment, the society of the learned, the witty, and the eminent in every way, who were assembled in numerous companies, called forth his wonderful powers, and gratified him with admiration to which no man could be insensible.

"Streatham Park was sold by auction in 1816, but its celebrity still lives in the reminiscences of road side tourists. The village of Streatham, too, about five miles south of the metropolis, is among the most picturesque of its suburban attractions. The notoriety of its mineral spring, like that of Epsom and many similar places, is almost forgotten! but the neighbourhood is one of great opulence, and its villas display no ordinary taste and splendour.

ART. 148.—*Exhibition of American Manufactures in the City of New York, under the Auspices of the American Institute.—List of Premiums.*

The spacious and beautiful room of the Masonic Hall was opened to visitors on Tuesday the 15th inst. Our description of the scene exhibited would not aid the imagination of our readers, after stating that the Fair was designed to continue three days, but owing to the vast number of visitors that crowded the room from an early hour in the morning to late in the evening of each day, the exhibition was not closed until Saturday evening, when the public seemed scarcely more reconciled to be shut out from the splendid show than on the third day.

On Monday evening, Gen. Lynch delivered an

address; and although the weather was very stormy, he was honoured with an audience more numerous than the room could conveniently accommodate. This address we shall probably notice on a future occasion.

We have added to the report of the committee, as far as we could, the residences of those obtaining premiums, and occasionally a few remarks. The list will well repay perusal, and serve as a convenient record.

The following premiums were awarded under the written decision of competent and experienced judges and approved of by the Institute.

REGULAR PREMIUMS.

Department of Woollens.

Premium—To the Glenham Company, for the two best pieces of superfine *blue* Broad Cloth, A. L. Ulrick, superintendant—pr. P. H. Schenck, Esq.

To R. W. Dickinson, of Watertown, Mass. for nine best pieces of superfine *black* broad Cloth.

To Robert Rawson, of South Orange, New Jersey, for an excellent piece of superfine *black* broad Cloth, (No. 1519.)

To the Glenham Company, for a fine piece of brown broad Cloth, (No. 4751,) A. L. Ulrick, superintendant—by Mr. Schenck.

To Messrs. Samuel Slater and Sons, of Dudley, Mass. for a superior piece of superfine mixed broad Cloth—by Tucker, Spring and Dorr, Agents, 54 Pine street.

To Samuel Slater & Sons, of Dudley, Mass. for two very superior pieces of superfine drab broad Cloth—Edward Howard, superintendant.

To the Yantic Company of Norwich, Conn. for ten pieces of superfine white Flannel, a part unrivalled in fineness and finish—5 qrs. wide, 140 threads to an inch, price $1 25.

To the Salisbury Company, Conn. for seven pieces of beautiful scarlet printed Flannels—by Burns and Halliburton, 148 Pearl-street.

To the Franklin Company of Orange County, N. Y. for nine pieces of substantial and cheap Flannel.

To D. C. Frisby, for two pieces of superior American Stair and Ingrain Carpeting.

To Thomas Williams & Son, of Poughkeepsie, for a piece of superfine black Cassimere, manufactured from silk and wool—a new article, elegant, cheap, and durable—much admired.

To J. W. Mills, of Hartford, Conn. for the best pair of Woollen Blankets.

Department of Cotton and Silk.

Regular premium to the Steam Cotton Manufacturing Company, Providence, R. I. for the best package of Cotton Shirtings, put up like Irish linen, and stamped "superfine steam loom,"—much admired.

The Scituate R. I. Manufacturing Company, for the best package of brown Shirtings, (a beautiful article.)

Robb & Jackson, of Greenwich Village, N. Y. for the best package of superfine Ginghams, denominated "Carlisle."

The Merrimac Company, for the best package of two blue printed Calicos, superior to imported—by Burns & Halliburton.

The Merrimac Company, for the best package of light four-colored fancy Prints, equal if not superior to imported, by Burns and Halliburton.

J. B. Nones, of Philadelphia, for a specimen of American Nankeen.

The Phenix Mills Company, N. J. for two pieces of Cotton Bagging, C. Bolton, agent.

The Ipswich Manufacturing Company, Mass. for a piece of six-quarter Bobbinet Lace, by Burns and Halliburton.

Edward Lawton and William C. Cozens, Newport, R. I. for a piece of worked Bobbinet Lace, Downer and Co. agents, 134 Pearl-street.

Department of Iron and Steel.

Regular premium to the Matteawan Company, for 20 pairs of Smoothing or Sad Irons, superior to any imported—W. B. Leonard, superintendant, by P. H. Schenck, Esq.

The Peru Iron Company, Clinton county, N. Y. for "Hoop Iron and Nail Rods."

O. L. Clark, 13 Bedford-street, for American Blistered Steel.

Henry Worrall, 26 Elm-street, for the best lot of Hollow Ware.

Thaddeus Sellick, of New York, for a coil of Card Wire, made at the factory of R. McQueen, Duane-street, New York.

The Peru Iron Company, for a Chain Cable and a cask of Nails.

Department of Glass.

Regular premium to John L. Gilleland and Co. for specimens of plain and pressed Glass.

Joseph Baggott, for specimens of cut Glass.

John Bruerton, 11 Thompson-street, for splendid specimens of stained Window Glass.

The Champlain Factory, for the best box of Window Glass.

Department of Hats.

Premium—To Charles St. John, 118 Broadway, for the best long knapped Beaver Hat.

E. Bloomer, 156 Broadway, for the best short knapped Beaver Hat.

Smith and Hannah, 150 Water-street, (succesors to Ives and White), New York, for the best plated Hat.

Department of Pianos.

Premium—To Robert and Wm. Nunns, Broadway near City Hotel, New York, for the best upright cabinet Piano.

William Geib, 214 Broadway, for the best horizontal two string Piano.

Robert and William Nunns, for the best Unicord Piano, a new article.

A discretionary premium to Mr. Sackmeister, for the second best Unicord Piano, made for S. Bromberg, 80 Broadway.

Department of Paper.

Premium—To H. Hudson, of Hartford, Conn. for the best Foolscap Paper, T. A. Ronalds, Agent, 203 Pearl-street.

Robert Donaldson, 45 John-street, New York, for the second best Foolscap Paper

R. Donaldson, of New York, for the best Letter Paper.

H. Hudson. of Hartford, Conn. for the second best specimen of Letter Paper.

R. Donaldson, for the best specimen of Note Paper, and Bank Post Laid and Wove.

Goodwin and Co. Hartford, Conn. for the best specimen of blue laid Demy, Medium, and Royal Writing Paper.

Stephen E. Teffts, 73 Allen-street, for Sand, Emery, and Glass Paper.

Department of Books.

Premium—To Abraham De Camp, 38 Wall-st. for the best specimens of Bank Ledgers.

D. Felt, 245 Pearl-street, for the the best specimen of Blank Books.

E. Bliss, 128 Broadway, for the best specimen of Printing displayed in the "Talisman."

A. Chandler, 144 Nassau-street, for the best specimen of Stereotyping, displayed in an edition of Clarke's Commentary on the Bible.

Department of Stone Ware.

Premium—To D. & J. Henderson, Jersey City, for a beautiful and extensive variety of Flint Stoneware, J. Turnbull, Agent, Fulton-street and Broadway.

To the Northern Patent Brick Co. for the best specimen of building Brick. Machine is near Dry Dock.

To ———, for the best Specimen of American China, displayed in two Pitchers, manufactured in Philadelphia by a self-taught American.

J Bruorton, for gilding and enameling on China.

Salamander Works, in Cannon-street, for the best specimen of Fire Brick and Grate fixtures.

E. Conover, for the best specimen of American ornamental Marble, and the best specimen of building Lime. This marble is found at Glen's Falls, N. Y.

Department of Flax and Hemp.

Premium—To Garsed, Raines & Co. of Pennsylvania, for the best specimen of Hemp Duck.

To the Passaic Company, for the best specimen of Cotton Sail Duck, by Colt, Agent.

Garsed, Raines & Co. of Pennsylvania, for the best specimen of shoe and sail twine and thread.

Department of Leather.

Premium—To G. & A. Watts, 6 Ferry-street, for the best specimen of metalic bronzed Leather.

J. D. Everson, 26 Ferry-street, for the best specimen of metalic bronzed Morocco.

D. B. Crockett, Newark, N. J. for the best specimen of glazed Leather. A superior article.

Luke Davies, 102 William-street, for the best assortment of Cloth and Leather Caps, and oiled Silks.

Department of Wood.

Premium—To S. B. Young, 69 Broad-street, for a white and live oak Card Table, an elegant article.

Pioli Young, 94 Reed-street, for the best Sofa Frame.

Sohn C. Parker, for the best Gig body and Wheels.

E Baldwin, 404 Broome-street, for a beautiful assortment of Planes.

Department of Ladies' Hats.

Premium—To Miss Leonard, of New-York, for the best Leghorn Hat.

Miss Vose, of Watertown, Conn. the second best Leghorn Hat.

Eli Curtis, of Watertown, Conn. for the best Palm Leaf Hat.

Eli Curtis, of Watertown, Conn. for the best Gentleman's Palm Leaf Hat.

Chittenden Purdy, best Merino Hats.

Mary Haines, for a Lady's Hat and Feathers made of Down, a very beautiful article.

Department of Machinery.

Regular premium—To the Matteawan Company, Wm. B. Leonard, Superintendant, a Power Loom for weaving Broad Cloths, a most beautiful and perfect Machine, which wove 20 yards of fine Broad Cloth during the Fair—By P. H. Schenck.

Sohn Whittemore, 67 Cliff-street, for a Machine for manufacturing Cards.

To the Matteawan Company, a newly invented Cast Iron Carriage Wheel, Hub and Axle.

Discretionary Premiums.

The following discretionary Premiums, are awarded for articles not properly belonging to any particular class.

To Henry Willett, corner of Bowery and Delancy sts. for a Rotary Fire Pump, and Beer and Soda Water Pumps.

To Thomas Day, Jr. 369 Pearl-st. best specimen of Ornamental Paper Hangings.

To Daniel Klauberg, 84 Maiden Lane, best specimen of Pen Knives.

To Stacy Pancoast, 90 Maiden Lane, best specimen of Brass Nails, and Coach and Harness Mountings.

To H. Stevens, of Newark, best specimen of Coach Lace.

To John Hewett, 17 Jay-st. for a Patent Bedstead.

To James Anderson, 196 Water-street, for Corks, made by Machinery.

To J. Whitney, for the best pair of Ladies' Shoes.

To Thomas A. Lane, 1 Murray-street, the second best pair of Ladies' Shoes.

To George Elliott, New-York, two pieces Silk Fringe.

To Mrs. Freidle, best specimen of Artificial Flowers.

To William H. Miller, 415 Broadway, Military Equipments and Saddlery.

To Melenda & David, 152 Water-street, for superior Whips.

To F. Marquand, 166 Broadway, for Jewelry, and superior Tea and Dinner Silver Ware.

To Gale & Mosely, 116 Fulton-street, for superi- Silver Forks and Spoons.

To Wright & Dale, 68 William-street, for superior Dies and Medals.

To Dr. Pascalis, for specimens of American Silk Worm, Eggs, Cocoons and Silk, in various stages of production and filiture.

William Bryan, 34 Arcade, printed silk Handkerchiefs.

James Reed, 34 Arcade, sundry manufactures in Silk.

M. Saltenstall, superior Gun Locks.

John M. Dow, 122 Beekman-st. superior Scale Beams.

Crossman & Leonard, Mass. superior Britiannia Ware.

Sturges & George, superior Hair Cloth Seating,

P. Rose, superior set of Surgical Instruments.

E. & H. Raymond, 185 Water-street, for felted Hearth Rugs, Table Covers and Padding.

Richard Robinson & Co. of Attleborough, Mass best specimen of gilt Buttons, a superior article, equal to best English.

John Smith, N. Y. best Starch and Hair Powder.

Michaels & Derrick, 106 Broadway, best set of single Harness.

Brown, 372 Broadway, best Cast Iron Ploughs.

Chemical Manufacturing Company, best blue Vitriol, Epsom Salts, and chrystalized Pot Ash.

J. Cozzens, 93 Housten-street, pure caustic Pot Ash.

Miss Mary C. Frost, a Splendid Lace Coverlid.

F. Smith, brass Shovels, Tongs and Poker.

Geo. Innes & Co. best specimen of manufactured Snuff and Tobacco.

McKenzie, New-York, superior carved Caps and Bases for Piano legs, equal to French.

Partridge & Colgate, 10 Gold-street, for a specimen of South Carolina Indigo.

Jared L. Moore, 142 Chatham, superior specimen of Gold Spectacles.

For a Musical Clock, to Uri Emmons, 13 Allen-street. This sold for $400.

For a Sofa Bedstead, to Chester Johnson, 188 Grand-street.

For one Brass and one Copper Coal Scuttle, to T. Darby.

The Institute deem it their duty to notice, with sentiments of peculiar satisfaction, *the following articles*: the same in some instances not having arrived at a sufficient degree of perfection to receive premiums; and in others not being of that class of articles connecting themselves with the leading interest of manufacturers. *In every instance* however, they exhibit much ingenuity and skill, and are *highly commendable.*

Mr. Pendleton, for specimens of Lithography.

Mr. Imbert, 104 Broadway, for do.

Water proof Cloth, by Mr. James Reed.

Wire Cloth, by Mr. John McChesney.

Self generating Gas Lamps, by J. Jennings.

Doremus Suydam & Co. Navarino Stocks.

Lilibridge, do.

D. A. Berrien, superior hair and clothes Brushes.

John Tuthill, stomach Pump.

Mr. Martin, Night Lamps.

Bull's Platform Scale.

Bussing's Pocket Books and Ladies Reticules.

Henry James, an apprentice, a locomotive Steam Carriage.

Morange and Davis, leather Caps and patent Leather.

E. Howe and Co. North Salem, water proof Prunella.

Anna T. Clanning, painting on velvet.

Miss Codlin, a Map of the State on a Sampler.

Pye and Whaley, specimen of Locks.

R. T. Tanner, superior Pocket Books and Reticules.

Charles Bird, specimen of Carving.

S. Kennedy, specimen of Gilding.

George Dunn, of Newark, a Buggy body forged in one piece.

Mr. Ely, specimens of Penmanship.

Scrap table, by a lady of New York.

Two Patch Work Quilts—One by Mrs. Whitlock, aged 82 years, the other by Miss Reed, aged 4 years.

Giles Bushnell, Tortoise Shell Combs.

John L. Hurley, Tortoise Shell Combs.
Belcher Brothers, superior Rules and Scales.
T. Thomas, Block Tin Ware.
J. Foster, superior Binding.
Parmentier, ripe Monthly Strawberries, red and white, and a beautiful boquet of Flowers.
John and Richard Fisher's Cut Glass.
Fuller and Thomas, Grates and Fenders.
James Gilchio, Manifold Letter Writer.
C. Sammis, Ladies' Shoes.
John G. Wright's Specimen of Starch.
E. Bloomer's Ladies' and Children's Beaver Hats, and a Military Hat.
Lawton & Cozzens, a Lace Veil.
Miss St. Martin, do.
Miss C. Woodward, do.
Miss Eliza Bloons, of Newton, L. I. a Peacock Feather Cape.
Miss S. A. Tredwell, of Westchester, a Stand in imitation of East India Work.
James Spencer, imitation panneling of Wood.
T. Cooper, Mustard.
J. McChesney, Wire Seive.
Increase Wilson, a Coffee Mill.
Ira Floyd, improved Oven and Stove.
Naylor & Co. improved Schuylkill Stove.
William Goaddy, superior Grates.
John Lomack, superior specimen of Wood Type.
Addison and Stevens, of New York, a newly invented Ring Cotton Spinner, to all appearance a great improvement.
A Maple cased Piano, by Messrs. Forth and Hall, an article of beauty and cheapness.
A Satin Baver Hat, by Semms and Harrison.

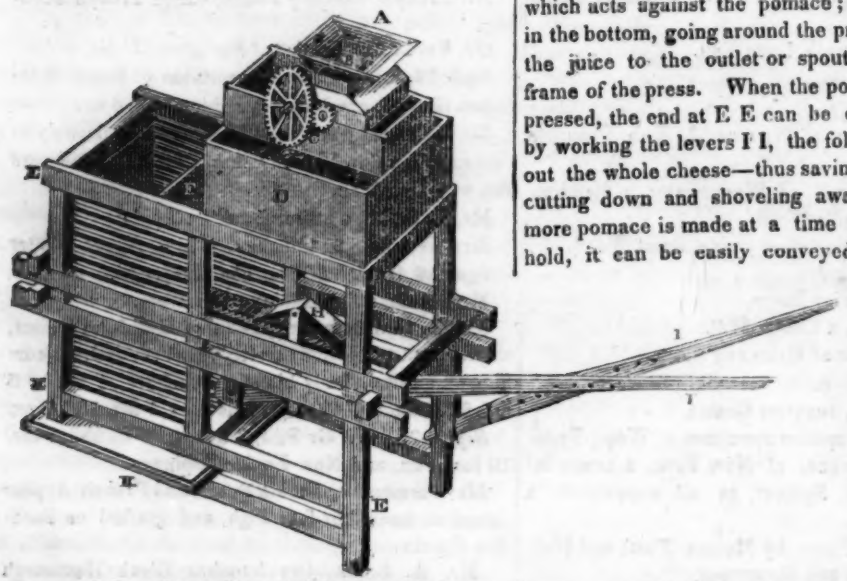
ROBERT DONALDSON,
H. M. WESTERN,
T. B. WAKEMAN,
Executive Committee.

ART. 149.—*Proceedings of the Inspecting Committee of the New York Horticultural Society, for September.*

Sept. 1, Capt. C. Holmes presented a large Magnum Bonum, and Plums, 6 of which weighed 13 oz. 3 dwt. 8 gr.
Mr. Cooke, some fine free stone Nectarines, Begundy Grapes, and Mush melons.
Mr Wm. Law, three fine Mush Melons.
Mr. Coady, some Casaba do.
Mr. Smith, brown Catherine and Burgamot Pears.
Mr. Wilson, Mush Melons from Murray Hill
Mr. Still, four Savoy Cabbages, weighing 14 lbs. 5 oz.—six Orange Carrots, weighing 6 lbs. 1 oz.—four heads of Butter Sallad, 4 lbs. 11 1-2 oz.—and six large Beets, weighing 5 lbs. 2 oz.
Mr. Samuel Downer, four specimens of very fine Pears.
Mr. G. Thorburn, a beautiful collection of Flowers.
Sept. 15 Mr. M'Bnair, specimens of a seedling Peach raised by himself from seed of the yellow Melecoton-tree four years old.
Capt. Mason, of the ship William, from Lisbon, 4 very large Onions, weighing 5 lbs. 9 3-4 oz.
Mr. Smith, specimens of French Pears, brown Spice do. and a Ribstone Pippin.
Mr. Probyn, seedling Peach, called Probyn Seedling.
Mr. Cooke, specimens of Savignon Grape.
Sept. 22. Mr. Probyn, specimens of Royal Muscadine Grapes, one bunch weighing 13 1-4 oz.
Mr. Groshon, from the Garden of Mr. Beakly at Greenwich, a fine Lemon Cling, from a tree 20 years old, weighing 7 oz.
Mr. A. Smith, a sweet Seedling Apple.
Mr. Warner, 2 bunches White Sweet Water Grapes 14 Golden Nectarines & three sorts of Pears.
Mr. Neale, a fine display of Flowers.
Mr. G. Still from the garden of Mr. John Fisher, six different sorts China Aster, very beautiful. From his own garden, finely blanched Cichory, 4 heads 5 lbs. 6 1-2 oz. and 4 heads of Lettuce, 7 lbs. 13 1-2 oz.
Sept. 29.—M.. Gr Still, 3 heads of Cauliflowers, 10 lbs. 4 oz. and New Zealand Spinage.
Mr. Parmentier, Seckle Pears, and French Apples raised on trees four feet high, and grafted on Paradise Stocks.
Mr. A. Smith, two bunches Black Hamburgh Grapes, one of which weighed 29 1-2 oz.
Mr. Wade, two bunches Red Hamburgh Grapes, weighing 12 and 11 oz.
Mr. Phelan, Florentine and Noisette Roses, and others Flowers.

ART. 150.—*Making Cider—Description and Drawing of Thurston's Improved Grater Cider Mill.* [By the EDITOR.] Continued from p. 193. There are two points in making cider on which the quality very much depends.—They are clearness of the juice and the fermentation. The former is easily obtained by the use of grater cider mills and careful straining; concerning the latter, much is yet, in our apprehension, to be learned. The general fault of cider, more than three months old, is too much acidity. In the fermentation of cider, carbonic acid gas is given out, and oxygen is attracted from the atmosphere. Now as carbon is a principal ingredient in sugar, and oxygen in acid, it would appear that less sacharine matter, and more acid, is the consequence. However, as the carbonic acid gas

given out is composed of carbon and oxygen, the acidity is not in proportion to the oxygen attracted, but still it is sufficient to make the greater proportion of cider too sour. The question arises with us, Is any additional oxigen from the atmosphere necessary? If cider protected from the air, except by a small bung hole, is very liable to become too much acidified, would it not be advisable to exclude the atmosphere entirely during fermentation? To do this, let the bung be driven tight, and one end of a bended tube closely fitted in a hole bored near the bung, and the other end inserted in a vessel of water. During the fermentation the carbonic acid gas will be driven through the tube, and rise in bubbles from the water, but no oxigen can enter. The fermentation can undoubtedly be stopped by racking off, and if necessary by short exposure in an open vessel to the atmosphere. Let every farmer try the experiment on a small scale this year, and we are inclined to think all that do will continue the plan, or something similar, in succeeding years.



The introduction of grater cider mills will tend both to improve the quality of cider, and render the making of it less expensive

Apples when grated make much clearer cider than when mashed. Consequently, having less sediment, the liquor is more easily managed, and not so liable to be injured by foreign substances. It also sells more readily and commands a better price.

Mr. Thurston has made several improvements in the grater-mill. By a very simple contrivance, which is a very great improvement, the teeth on the cylinder cannot be injured by stones that are often thrown in with the apples. The construction of the hopper is such as to make it feed without the least choaking or obstruction.

A, is the hopper; B, the grater cylinder; C, a cog wheel on which a crank is put: it may be also turned by having grooved wheels and cords passing around them; D, a vat that first receives the pomace, from which it is conveyed into the press represented by the slats; I I, are double leavers of any required length, which acting at the kuckle joint H, force along the wrack G, to which the follower F is attached: This last is a strong plank which acts against the pomace; K is a channel cut in the bottom, going around the press and conveying the juice to the outlet or spout; E, E, E, are the frame of the press. When the pomace is suffieiently pressed, the end at E E can be easily opened, and by working the levers I I, the follower F will shove out the whole cheese—thus saving all the labor of cutting down and shoveling away the cheese: If more pomace is made at a time than the press will hold, it can be easily conveyed, by working the levers into any other reservoir, from which it can be again shovelled into the press, when it is ready for pressing. By hand a bushel of apples can be grated in one minute. And with a horse power, a good mill will grate faster than a man can conveniently shovel the apples into the hopper: Pumpkins, potatoes, turnips, and other similar vegetables, are grated with the same facility. The importance and convenience of the mill, in this point of view are very great. By a simple and cheap apendage it is converted into a corn cracker: Taking it altogether, it is in our view, the cheapest and most convenient article of the kind, yet brought before the public.

The mills can be had at Messrs: Freeborn & Hitchcock's, 183 Front-street, New York.

NEW YORK, OCT. 31. 1829.

Marsh Mud as a Manure.—The attention of agriculturists in the southern states appears, at present, much taken up with this subject. They consider it, particularly mud from salt marsh, as the most valuable manures for both cotton and corn. The Hon. Wm. Johnson, in a communication in the "Southern Agriculturist," published at Charleston, says,—"there is no soil and no plant that will not be

benefitted by the use of marsh mud."—"But the great advantage of the marsh mud is its durability. Most other manures are either absorbed, exhausted, or washed away in a short time, and must be replaced. This appears to produce an actual change in the soil, giving to our light, sandy lands, a colour and consistency, and a durability approaching to what our planters know by the epithet of mulatto land."

Marsh mud is mixed, at the south, with great advantage with the manure of the cow yard. Trials, we know, have been made of salt mud in the northern states, but we presume not under all the circumstances necessary to insure success. We should be pleased to have communications from those who have information on the subject.

Propagating the Mulberry. In the London Gardener's Magazine is a communication speaking of the successful growth of branches of the black mulberry, planted after they had lain on the ground all winter. By lying thus long, the sap thickens, as says the writer, and vegetation is more certain. They bear fruit much sooner in the ordinary way.

Housing Corn. Mr. Skinner, SIR—I cannot refrain from relating some facts, in addition to those inserted in the American Farmer of October 17, 1828, relating to the housing of corn with the husks there on. On the 22d instant I began pulling my new crop; there had been some old corn left in the house with the husks on, which kept in the highest perfection. This, for the purpose of removing it, was husked, and in the act of removal, it shattered very much from the cob. I therefore conclude, that if the said corn had been husked out in the common way last November, all this shattering and more too would have taken place through the summer, and strewed the corn-house floor with the grain, which would have been measurably lost. So that thus keeping corn until wanted, through the season, with its coat on, is like keeping it, that is, each ear in a little bag, and preserving it both from shattering and in a great degree from the rats and other rogues, as also from the wevil; for I must observe now as I formerly did, that the only part of my last year's corn in the husk, now fly-bitten, is that which was not covered out to the end of the cob by the husk, and of this but a few grains. Very respectfully yours,

JAMES CARROLL.

Mount Clare, Oct. 26, 1829.

Coffee from Acorns. The use of coffee made from roasted acorns, is now, it seems, becoming very general in Germany. Some of the German papers state, that persons with debilitated stomachs have been able to take this coffee when they could digest no other preparation; and that after long use, they have recovered the tone of the stomach, and acquired considerable embonpoint. There is nothing new in this discovery, however; for among the lower orders in many parts of Portugal, where the sweet acorns grow abundantly, they are used both for bread and coffee; although they are not considered very wholesome as an article of food, and are taken solely on account of their cheapness. They are a powerful astringent: and in cases where Peruvian bark is recommended, are said to be employed in Germany with good effect in the way of coffee.—*Literary Gaz.*

Vegetable Sensation.—When a fully expanded flower of the common Barberry is touched on the inside of one of the filaments, it internally contracts.

Stocks for Grafting. MR. FESSENDEN—I noticed in one of your late papers some queries respecting the grafting of pears on thorns. I do not think them so good as pear stocks; yet they may answer, provided the scions be inserted below the surface of the ground, that the trees may take root from the scions—otherwise, the pear will so much outgrow the thorn, that neither stock nor roots will be sufficient to support the top. I know of a pear tree which was grafted on a thorn some feet from the ground; the stock of which is now two inches only, and the pear (just above) is six inches in diameter! It has been found necessary to set a frame under the tree to prop it up.

As our common red cherry does not grow so large as the English cherry tree, I think the same remarks would apply.

I have noticed many of the Bolmer's Washington plum trees, which are about twice as large as the stocks on which they stand. I think it is evident that the trees would have been twice as valuable if grafted so low that they had taken root from the scions. It is desirable, for all varieties, to use stocks that will grow as large and as fast as the scions set in them.

HENRY LITTLE.

Bucksport, Me. Oct. 1829.

Pole Beans. Mr. Skinner—I send herewith a few pole beans, which I esteem of peculiar excellence; though it is highly probable you may have long been acquainted with their kind and character—their peculiar properties are, they have no strings, are perfectly tender even when yellow or ripe—they ought to be fully grown, and filled up before they are gathered for the table, at which time they will boil perfectly tender, as much so as a young shoot of asparagus, and will be found peculiarly rich and succulent. They are very productive when planted with corn on low, rich, sandy land, or they will answer well, planted on any good garden soil, and in this case they ought to be provided with poles four and five feet

in length, with the branches or brush left on them, so that the vine of the bean may have an opportunity of running in every direction without being too much crowded.—*American Farmer.*

Cumberland, Va. Oct. 15, 1829.

Ever-Bearing Raspberry.—Mr. Nondiah Rockwell, Jr. brought to our office yesterday, for exhibition, several bunches of the Ever-Bearing Raspberry, loaded with great numbers of this delicious fruit—some ripe, others just turning red, and others green: it had also a large number in bloom. The fruit when ripe is red, of a beautiful flavor. It commences bearing early in the spring, and continues to bear until frost comes. A gentleman forwarded it to Mr. R. from the banks of the Mississippi. Mr. R. we believe, has the plants for sale.—*Middletown Sentinel.*

Breaking and Dressing Flax.—The following description is taken from the Asylum of Arts in France, by a French gentleman who is friendly to the agricultural industry of the United States of America.

A machine for breaking and dressing of flax and hemp, was invented by a French gentleman about the year 1814, under the offered bounty of Napoleon of 1,200,000 francs: a description from a drawing is as follows:—There are from 50 to 80 pairs of fluted rolers the top rolers riding those of the bottom, and each pair lying by the side of each other, so closely as to receive the flax or hemp from one pair to the other, until it passes through the whole range. At the end of every bottom roller, there are pinion wheels, and wheels at right angles to drive them, and the latter set in motion by the power given to the head of the machine. The top rolers are lever wheighed upon the bottom rolers, and the latter gives motion to the former, by the said motion, at the head of the machine. The rolers lie in a horisontal position, their ends bearing or resting in stands, and their whole range forming a level flat surface upon the top as well as the bottom. The machine has two aprons, one for feeding and the other for receiving the hemp after it is dressed, &c. It is said that the machine will break and dress 2000 lbs. per day, and will take 10 hands to tend it to advantage, averaging after completed 200 lbs. for each person employed. Ere long I will send over a description of the linen spinning, although complicated with *needles* and *rollers*, yet, it may answer on small scales. It appears that linen spinning machinery has never been effected to that simplicity and facility of operation as that of cotton, and if ever found out, it must be an American, as centuries have passed away in Europe without the discovery. I desire that every American newspaper friendly to agriculture, will give the above an insertion for the benefit of the farmers, &c.

[There are two or three linen machines in New York city, that are perfectly simple, and appear to be the desideratum—one by Addison & Stephens called the Universl Spinner, and another by Mr. Hunt.—*Ed. New York Farmer.*]

Filberts.—These nuts, which are vended in large quantities in the United States, grow as well in our climate as the common native hazlenuts, and produce very abundantly. Such being the case, it is hoped ere long sufficient will be produced from our own soils, to supercede the necessity of importation, as plantations of this tree would amply remunerate the possessor; or, if planted as a hedge, would be found to be very productive: a single bush of Spanish filbert, in Mr. Prince's garden produces half a bushél annually.—*Prince's Cataloge.*

Avearge price of Vegetables sold in Washington Market for September and October, 1829. [Corrected by William Curr, Gardener, for the New-York Farmer.]

Cauliflower, 50 cents to $1 50 per dozen heads.—*Brocoli*, from 50 cents to $1 50 per doz. heads.—*Cabbage*, from 25 to 75 cents per dozen heads.—*Savoys*, from 25 to 50 cents per do.—*Lettuce*, from 12 1-2 to 25 cents per doz.—*Endive*, 12 1-2 to 18 cents perdoz.—*Celery*, from 4 to 8 cents per bunch. *Radishes*, from 10 to 12 bunches for 12 1-2 cents.—*Beets*, from 2 to 3 cents per bunch.—*Carrots*, from 2 to 3 cents per bunch.—*Parsnips*, from 3 to 4 cents per bunch.—*Salsify*, from 3 to 4 cents per bunch.—*Onions* from 37 1-2 to 50 cents per bushel.—*String-beans*, from 37 1-2 to 50 cents per bushel.—*Lima Beans* from 50 cents to $1 00 per bushel.—*Windsor beans* from 50 to 75 cents per bushel.—*Parsley*, 2 and 3 cts. per bunch.—*Leeks*, from 2 to 4 cents per bunch.—*Musk Melons*, 4 to 8 cts. each.—*Water do.* 4to 18 centseach.—*Pears*, 37 1-2 to 50 cts. per bushel.—*Peaches*, from 50 cents to $1 50 per bushel.—*Cucumbers*, from 25 to 50 cents per 100.—For *Pickles*, from 12 1-2 to 37 2-2 per 100.—*Apples*, from 25 to 50 cents per bushel—*Plumbs*, from 25 50 cents per half peck.—*Grapes*, 3 to 12 1-2 cents per half peck.—*Tomatoes*, from 28 to 50 cents per bushel.—*Egg Plants*, from 25 to 50 cents per doz. fruit.—*Peppers*, from 12 1-2 to 25 cents per 100.—*Potatoes*, from 25 to 37 1-2 cents per bushel.—*Turnips*, 3 to 4 cents per bunch—and from 18 to 25 cts. per bushel.—Pot and Medical herbs, in great abundance from 10 to 14 bunches for 12 1-2 cts.

The supply of all the above Vegetables and fruit have been so abundant that gardeners have found it very difficult to dispose of their loads at the above prices—and the quality of almost every article has been very excellent.